



U.S. Department of the Interior  
Bureau of Land Management

Klamath Falls Resource Area  
2795 Anderson Avenue, Building 25  
Klamath Falls, Oregon 97603-7891

MAY 2001



# ***Klamath Falls Resource Area*** **ANNUAL PROGRAM SUMMARY & MONITORING REPORT**

**FISCAL YEAR 2000**



Klamath River - Looking Southwest at Hells Corner

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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U.S. Department of Interior  
Bureau of Land Management

Klamath Falls Resource Area

**ANNUAL PROGRAM  
SUMMARY**

and

**MONITORING REPORT**

**FISCAL YEAR 2000**



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\_\_\_\_\_/s/ Teresa A. Raml \_\_\_\_.

Teresa A. Raml, Field Manager  
Klamath Falls Resource Area

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# **KLAMATH FALLS RESOURCE AREA**

## **ANNUAL PROGRAM SUMMARY**

**Fiscal Year 2000**



# **KLAMATH FALLS RESOURCE AREA**

## **ANNUAL PROGRAM SUMMARY**

### **Fiscal Year 2000**

#### **Introduction**

The Annual Program Summary is a review of the programs on the Klamath Falls Resource Area, Bureau of Land Management for the period of October 1, 1999 thru September 30, 2000. The Klamath Falls Resource Area encompasses the southwestern portion of the Lakeview District, in southern Oregon (see Figure 1). This program summary is designed to report to the public, and local, state and federal agencies a broad overview of activities and accomplishments for fiscal year 2000 (FY 2000). Included in the Annual Program Summary is the Monitoring Report for the Klamath Falls Resource Area in FY 2000. These reports are a requirement of the Klamath Falls Resource Area Record of Decision and Resource Management Plan. The Annual Program Summary addresses the accomplishments of the Klamath Falls Resource Area and provides information concerning the Klamath Falls Resource Area budget, timber receipt collections, and payments to Klamath County. The results of the 2000 Annual Program Summary show that the Klamath Falls Resource Area is fully and successfully implementing the Northwest Forest Plan.

The Monitoring Report compiles the results and findings of implementation monitoring for fiscal year 2000, the fifth full fiscal year of implementation of the Klamath Falls Resource Area Resource Management Plan (RMP). The Monitoring Report, which is basically a “stand alone” document with a separate executive summary, follows the Annual Program Summary (APS) in this document.

Implementation of the Northwest Forest Plan began in April 1994 with the signing of the Northwest Forest Plan Record of Decision. Subsequently in June 1995, the Klamath Falls Resource Area began implementation of the Resource Management Plan, which incorporates all aspects of the Northwest Forest Plan, with the signing of the RMP Record of Decision. Fiscal years 1996 through 2000 represent the first five full years of implementation of the Resource Management Plan. Fiscal Year 1995, when the RMP was approved, only references activities from June through September 1995.

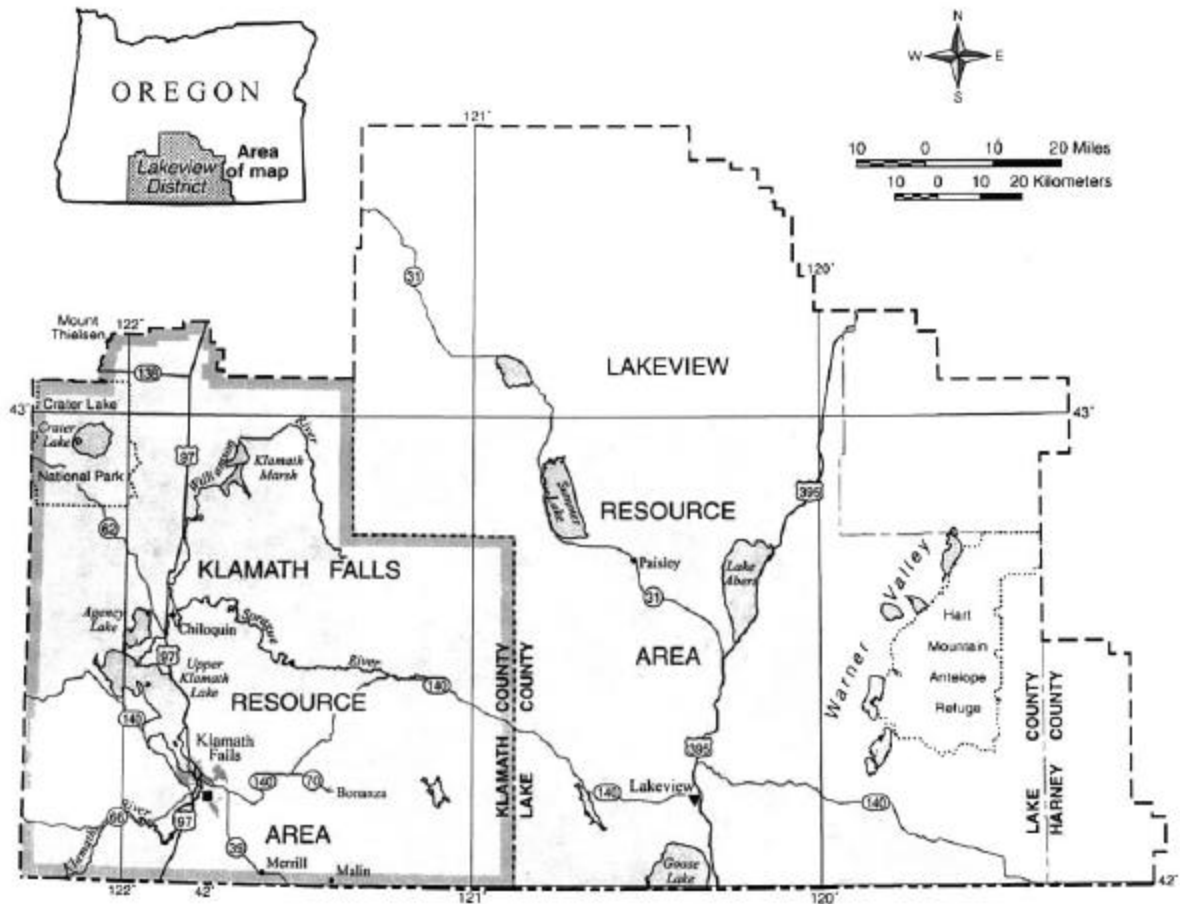
Although the Annual Program Summary gives only a very basic and very brief description of the programs, resources and activities in which the Klamath Falls Resource Area is involved, the report does give the reader a sense of the enormous scope, complexity and diversity involved in management of the Klamath Falls Resource Area public lands and resources. The managers and employees of the Klamath Falls Resource Area take pride in the accomplishments described in this report.

#### **Third Year Evaluation**

The third year evaluation of the Klamath Falls Resource Area Resource Management Plan by Oregon State Office staff has nearly been completed. The purpose of the third year evaluation is to determine whether there is cause for an amendment or a revision to the resource management plan. This evaluation includes reviewing cumulative monitoring results and accomplishments, determining if the plans goals or objectives are being met, determining whether goals and objectives were realistic and achievable in the first place, and determining whether changed circumstances or new information have altered activities or expected impacts. Evaluations are usually done after the third year of implementation under the RMP. Because of unforeseen problems, release of the third year evaluation for years 1995-1998 has been delayed.

The Third Year Evaluation is expected to be available by the summer of 2001. The evaluation will be approved by the BLM Oregon / Washington State Director and will be made available for public review. The State Director's findings will indicate whether or not the western Oregon RMPs are individually or collectively still valid for continued management, or will require plan amendments or revisions, together with appropriate environmental

U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Lakeview District  
Klamath Falls Resource Area  
**FIGURE 1 - GENERAL LOCATION MAP**  
2001



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- BLM DISTRICT BOUNDARY
- ..... BLM RESOURCE AREA BOUNDARY
- - - STATE BOUNDARY
- (97)— U. S. HIGHWAY
- (20)— STATE HIGHWAY

D04-05-00



analysis and public participation. An executive summary describing the overall process and conclusions will be mailed to all persons or groups who are on the mailing list for this Annual Program Summary. The individual resource area evaluations will be available, free of charge, upon request and also accessible "on-line" at the Klamath Falls Resource Area website, which is currently being updated.

## **Land Allocations within the Klamath Falls Resource Area**

There are approximately 216,000 acres of public land found within the Klamath Falls Resource Area. The Resource Management Plan approved in June of 1995 specified different land management allocations on different portions of the resource area. These allocations direct what activities may occur on each land area. Not all land use allocations and resource programs are discussed individually in a detailed manner in this Annual Program Summary because of the overlap of programs and projects. A detailed discussion of the various land use allocations or resource programs is not given in this Annual Program Summary, but can be found in the Resource Management Plan Record of Decision and supporting Environmental Impact Statement. For a listing of specific projects on the Klamath Falls Resource Area, see the Planning Updates that are published quarterly. These documents are available at the Klamath Falls Resource Area Office.

The Klamath Falls Resource Area is divided into Westside and Eastside Lands. The Westside lands are further separated into key and non-key watersheds as stipulated in the Northwest Forest Plan.

The acreages of land use allocations found within the Klamath Falls Resource Area and Westside watersheds are displayed in the Figures 3, 4, 5 and 6 below.

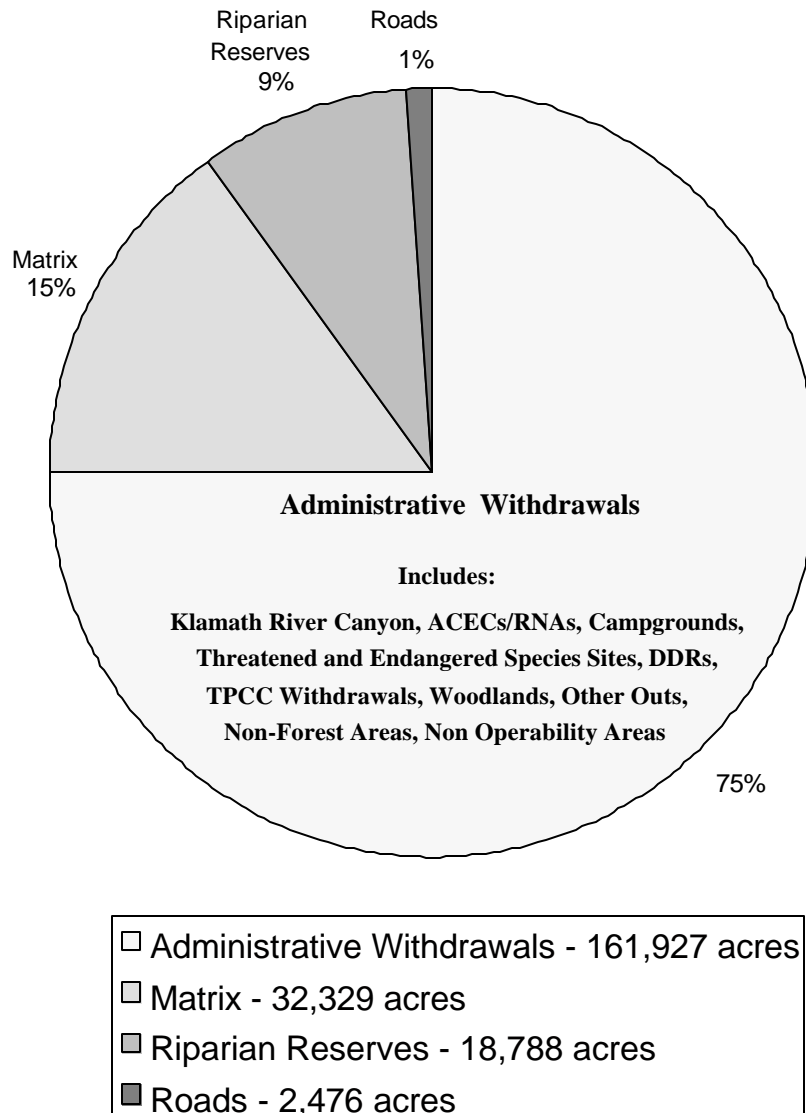
## **Summary of Accomplishments for the Klamath Falls Resource Area**

The manner of reporting the activities differs among the various programs. Some resource programs lend themselves well to a statistical summary of activities while others are best summarized in short narratives. Tables 1 and 2 provide a summary of the accomplishments for some resource activities for fiscal year 2000. These accomplishments are compared against cumulative accomplishments for 1995-2000. Further details concerning individual programs on the Klamath Falls Resource Area may be obtained by contacting the Klamath Falls Resource Area Office.



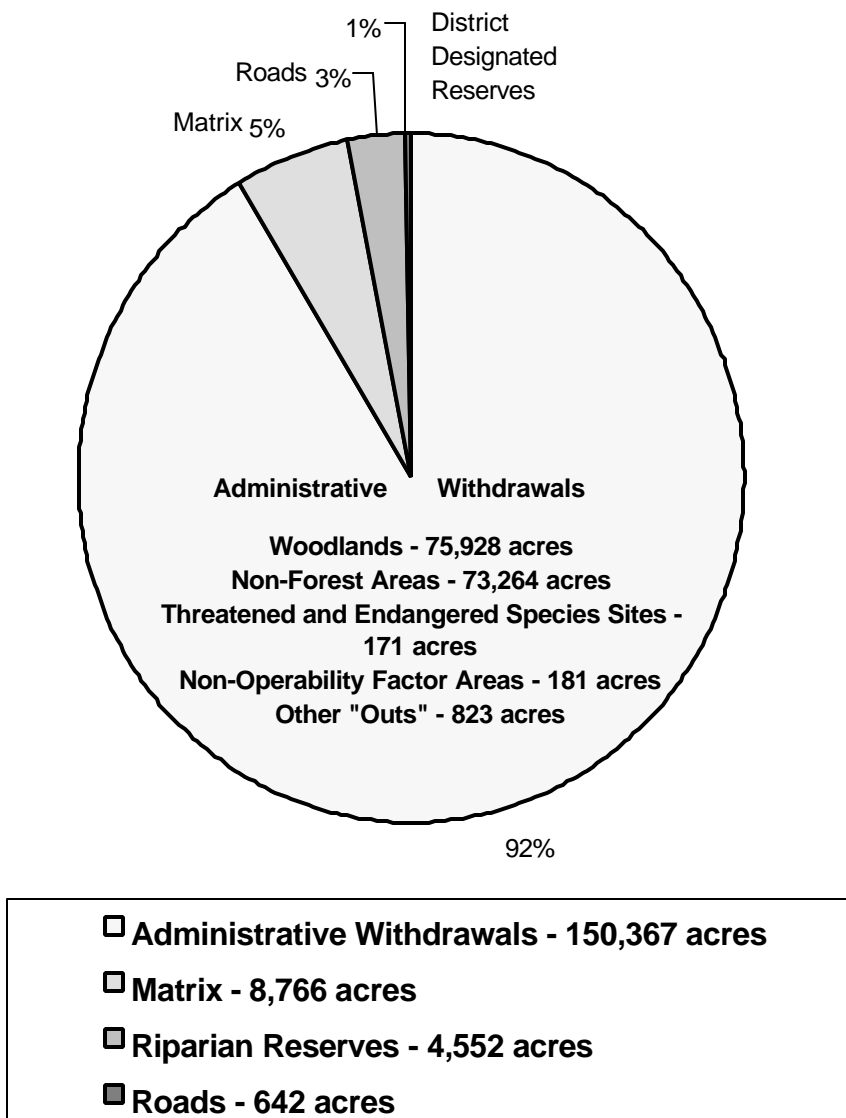
**Figure 2. Klamath Falls Resource Area Celebrated National Public Lands Day**

**Figure 3. Klamath Falls Resource Area Land Allocations**



ACEC = Areas of Critical Environmental Concern  
RNA = Research Natural Areas  
DDR = District Designated Reserves  
TPCC = Timber Production Capability Classifications

**Figure 4. Eastside Land Allocations**



**Figure 5. Westside Land Allocations**

**Administrative Withdrawals Include:**

Klamath River Canyon ACEC - 5,838 acres

TPCC Withdrawals - 2,706 acres

Old Baldy ACEC/RNA - 519 acres

100-Acre Owl Core Areas - 422 acres

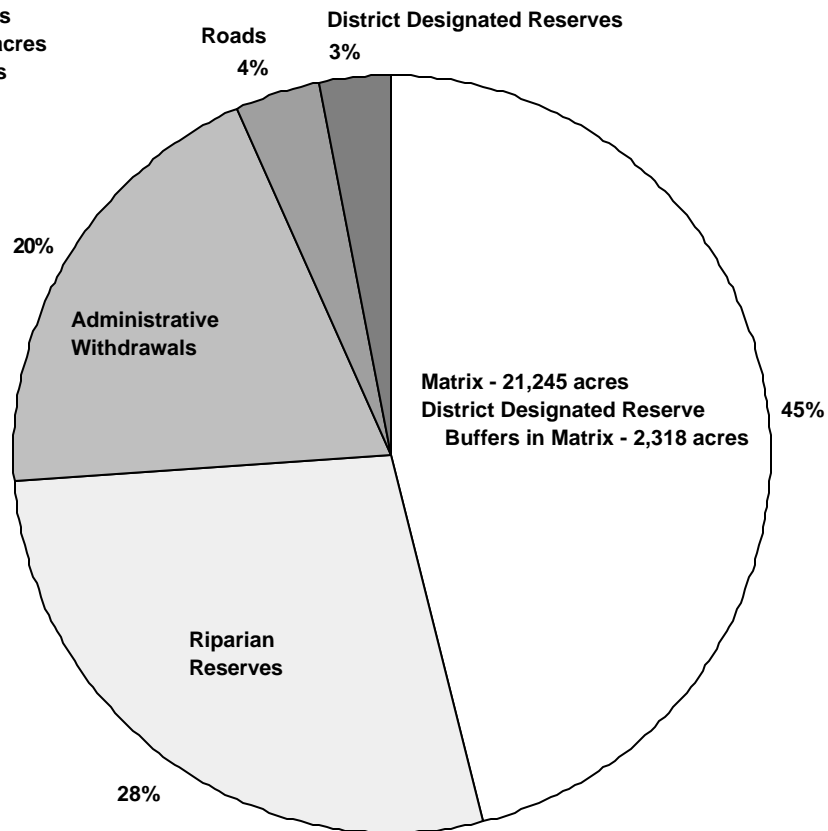
Surveyor Old Growth - 261 acres

Threatened and Endangered

Species Sites - 212 acres

Tunnel Creek - 74 acres

Topsy Campground - 6 acres



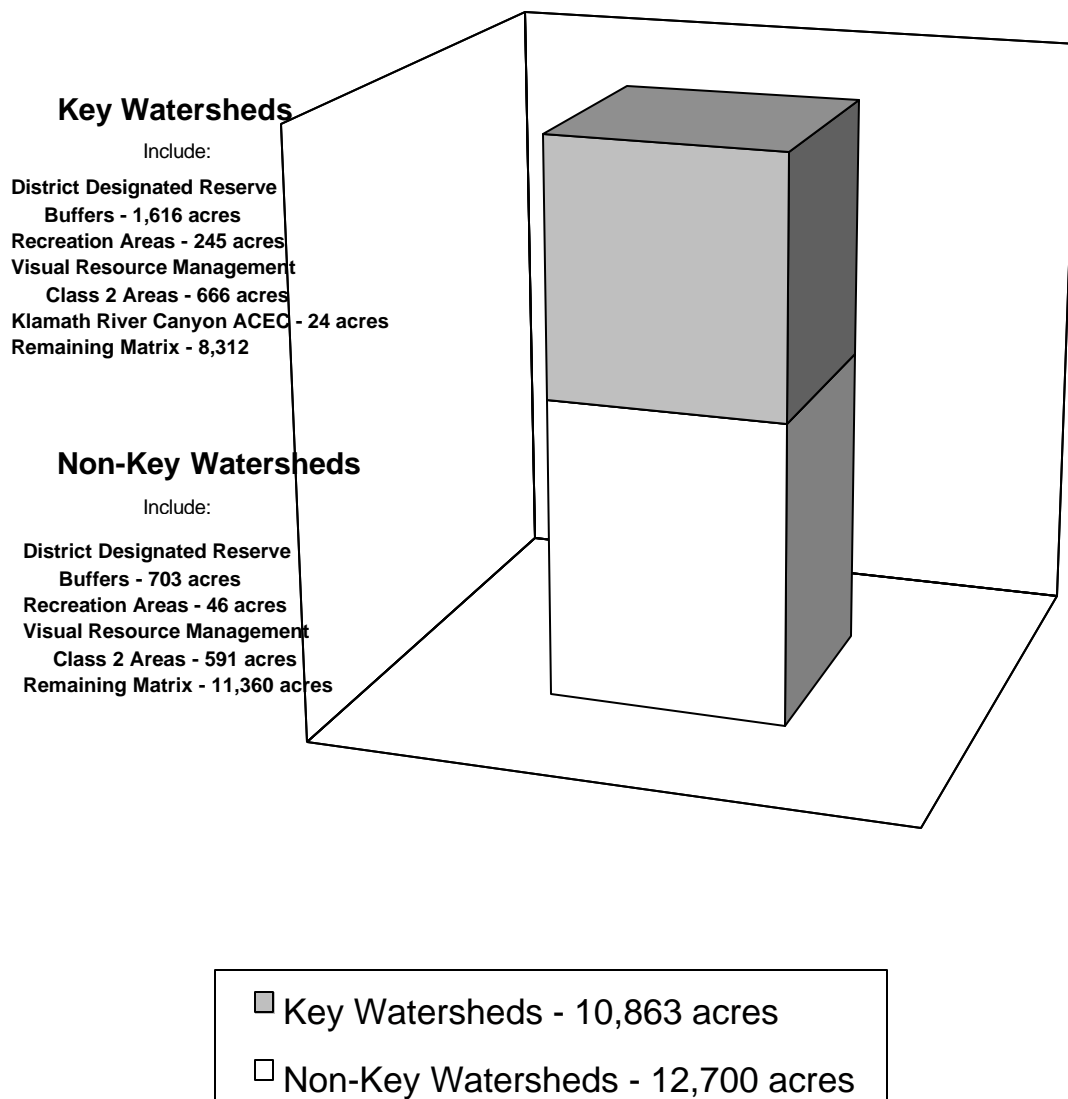
- ☐ **Matrix - 23,563 Acres**
- ☐ **Riparian Reserves - 14,236 Acres**
- ☐ **Administrative Withdrawals - 10,039 Acres**
- ☐ **Roads - 1,834 Acres**
- ☐ **District Designated Reserves - 1,521 Acres**

TPCC = Timber Production Capability Classification

ACEC = Area of Critical Environmental Concern

RNA = Research Natural Area

**Figure 6. Westside Matrix Land Watershed Designation**



<b>Table 1. Klamath Falls Resource Area - Summary of Activities and Accomplishments (Entire Resource Area)</b>			
<b>RMP RESOURCE ALLOCATION OR MANAGEMENT PRACTICE OR ACTIVITY</b>	<b>FISCAL YEAR 2000 ACCOMPLISHMENTS</b>	<b>CUMULATIVE ACCOMPLISHMENTS <sup>1</sup></b>	<b>PROJECTED DECADAL PRACTICES</b>
Regeneration harvest (acres offered)	39	39	1,530
Density management (acres offered) regulated/non-regulated	2,780 / 34	6,697 / 136	10,235
Timber sale quantity offered ( mm board feet) (regulated/non-regulated)	9.25 / 0.183 MMBF	36.60 / 0.525 MMBF	58.84 MMBF
Timber sale quantity offered ( mm cubic feet) (regulated/non-regulated)	1.80 / 0.04 MMCF	7.1 / 0.10 MMCF	10.36 MMCF
Mortality Salvage (acres offered)	270	7,130	0
Understory Reduction (acres)	419	2,471	4,400
Site preparation (acres)	28	379	2,500
Vegetation control, fire (acres)	0	0	250
Prescribed burning (hazard reduction acres)	0	320	2,500
Prescribed burning (wildlife habitat and forage enhancement acres)	0	1,000	7,400
Natural or artificial ignition prescribed fire for ecosystem enhancement (acres)	1,200	37,241	up to 75,000
Vegetation control, mechanical/hand (acres)	400	1,835	2,250
Animal damage control (acres)	0	1,017	4,150
Pre-commercial thinning (acres)	265	823	700
Brush field/hardwood conversion (acres)	0	0	0
Planting/ regular stock (acres)	97	1,561	3,600
Planting/ genetically selected (acres)	0	0	1,150
Fertilization (acres)	0	0	320
Pruning (acres)	0	43	290
Noxious weed control, chemical (sites/acres)	215/240	215/240 annually <sup>2</sup>	200-220/205-260 annually <sup>3</sup>
Noxious weed control, other (sites/acres)	10/17	30/290 <sup>4</sup>	60/550 <sup>4</sup>
Livestock grazing permits or leases (total/renewed units/animal unit months)	7 grazing permits 1,047 AUMs	65 grazing permits 17,740 AUMs	150 grazing permits <sup>3</sup> 25,000 AUMs
Reservoirs or springs constructed or developed (units each)	3	3	5
Livestock fences constructed (units/miles)	1/1.0 mi.	11/12.0 mi.	18/25.0 mi.
Rangeland Health Standards Assessments (# completed, acres)	9 Assessments <sup>4</sup> 57,338 acres	13 assessments <sup>4</sup> 103,142 acres	60 assessments 183,500 acres

<b>Table 1 (continued). Klamath Falls Resource Area - Summary of Activities and Accomplishments (Westside)</b>			
<b>RMP RESOURCE ALLOCATION OR MANAGEMENT PRACTICE OR ACTIVITY</b>	<b>FISCAL YEAR 2000 ACCOMPLISHMENTS</b>	<b>CUMULATIVE ACCOMPLISHMENTS <sup>1</sup></b>	<b>PROJECTED DECADAL PRACTICES</b>
Regeneration harvest (acres offered)	39	39	1,222
Density management (acres offered) regulated/non-regulated	2,780 / 34	5,852 / 96	7,725
Timber sale quantity offered (mm board feet) (regulated/non-regulated)	9.25 / 0.07 MMBF	33.73 / 0.365 MMBF	55.14 MMBF
Timber sale quantity offered (mm cubic feet) (regulated/non-regulated)	1.8 / 0.015 MMCF	6.6 / 0.07 MMCF	9.61 MMCF
Mortality Salvage (acres offered)	270	6,110	0
Understory Reduction (acres)	419	2,342	2,900
Site preparation (acres)	28	344	1,800
Prescribed burning (hazard reduction acres)	0	320	2,000
Prescribed burning (wildlife habitat and forage reduction acres)	0	0	2,500
Natural or artificial ignition prescribed fire for ecosystem enhancement (acres)	0	1,517	up to 40,000
Vegetation control, mechanical/hand (acres)	400	1,612	2,000
Animal damage control (acres)	0	992	4,000
Pre-commercial thinning (acres)	144	590	500
Brush field/hardwood conversion (acres)	0	0	0
Planting/ regular stock (acres)	74	1,276	3,000
Planting/ genetically selected (acres)	0	0	1,000
Fertilization (acres)	0	0	320
Pruning (acres)	0	43	160

<b>Table 1 (continued). Klamath Falls Resource Area - Summary of Activities and Accomplishments (Eastside)</b>			
<b>RMP RESOURCE ALLOCATION OR MANAGEMENT PRACTICE OR ACTIVITY</b>	<b>FISCAL YEAR 2000 ACCOMPLISHMENTS</b>	<b>CUMULATIVE ACCOMPLISHMENTS <sup>1</sup></b>	<b>PROJECTED DECADAL PRACTICES</b>
Regeneration harvest (acres offered)	0	0	308
Density management (acres offered) regulated/non-regulated	0 / 0	845/40	2,510
Timber sale quantity offered ( mm board feet) (regulated/non-regulated)	0 / 0.107 MMBF	2.87 / 0.160 MMBF	3.7/0 MMBF
Timber sale quantity offered (m mm cubic feet) (regulated/non-regulated)	0 / 0.02 MMCF	0.56 / 0.03 MMCF	0.75 MMCF
Mortality Salvage (acres offered)	0	1,020	0
Understory Reduction (acres)	129	129	1,500
Site preparation (acres)	0	35	700
Prescribed burning (hazard reduction acres)	0	0	500
Prescribed burning (wildlife habitat and forage reduction acres)	0	1,000	4,900
Natural or artificial ignition prescribed fire for ecosystem enhancement (acres)	1,200	35,724	up to 35,000
Vegetation control, mechanical/hand (acres)	0	239	250
Animal damage control (acres)	0	25	150
Pre-commercial thinning (acres)	121	233	200
Brush field/hardwood conversion (acres)	0	0	0
Planting/ regular stock (acres)	23	285	600
Planting/ genetically selected (acres)	0	0	150
Fertilization (acres)	0	0	0
Pruning (acres)	0	0	130
Juniper Thinning/Cutting (acres)	492	1,204	10,000
<sup>1</sup> Timber data is based upon 5.33 years (June 2, 1995 through Sept. 30, 2000) <sup>2</sup> Roads closed to the general public, but retained for administrative or legal access. <sup>3</sup> Many permits/leases are renewed and/or transferred more than once during any ten year period due to base property sales, leases, and other legal vehicles. The KFRA has a total of 96 Allotments and approximately 13,000 AUMs. <sup>4</sup> Process began in FY99 and is scheduled to continue through FY2008. <sup>5</sup> Many noxious weed sites are treated chemically and manually each year in order to control new plants generated from the soil seed bank and/or rhizomes; therefore, FY 2000 sites/acres are the same as cumulative sites/acres. <sup>6</sup> Biological control treatment (other) are cumulative, as organisms are released in new areas and established organisms disperse.			



**Table 2. Klamath Falls Resource Area, Summary of Non-Biological Resource or Land Use Management Actions and Accomplishments**

<b>RMP RESOURCE ALLOCATION OR MANAGEMENT PRACTICE</b>	<b>ACTIVITY UNITS</b>	<b>FISCAL YEAR 2000 ACCOMPLISHMENTS</b>	<b>CUMULATIVE ACCOMPLISHMENTS 1995-2000</b>
Realty, land sales	(actions/acres)	0/0	2/1,680
Realty, land exchanges	(actions)(acres) (acquired-disposed)	0/0	1/120/120
Realty, R&PP leases/patents	(actions/acres)	0/0	0/0
Realty, road rights-of-way acquired for public/agency use	(actions/miles)	0/0	0/0
Realty, road rights-of-way permits or leases granted	(actions/miles)	4/26	35/193
Realty, utility rights-of-way granted (# linear / # area)	(actions/miles/Acres)	3/1/1	3/4
Realty, withdrawals completed	(actions/acres)	0/0	1/1
Realty, withdrawals revoked	(actions/acres)	0/0	11/11,281
New permanent road const. (miles/acres <sup>1</sup> )	(miles/acres)	3.3 miles/8.0 acres	5.5 miles/13.4 acres
Roads fully decommissioned/obliterated (miles/acres <sup>1</sup> )	(miles/acres)	2.7 miles/5.4 acres	5.0 miles/9.9 acres
Roads closed year round (miles <sup>2</sup> )	(roads/miles)	5 roads/1.2 miles	12 roads/3.68 miles
Mineral/energy, total oil and gas leases	(actions/acres)	0/0	0/0
Mineral/energy, total other leases	(actions/acres)	0/0	0/0
Mining plans approved	(actions/acres)	0/0	0/0
Mining claims patented	(actions/acres)	0/0	0/0
Mineral material sites opened	(actions/acres)	0/0	0/0
Mineral material sites closed	(actions/acres)	0/0	0/0
Recreation, maintained off highway vehicle trails	(units/miles)	0/0	0/0
Recreation, maintained hiking trails	(units/miles)	2/1.5 mi.	4/8.5 mi.
Recreation, maintained sites	(sites/acres)	16 sites/2,000 acres	16 sites/2,000 acres
Cultural resource inventories	(sites/acres)	86 sites/13,650 acres	321 sites/46,292 acres
Cultural/historic sites nominated	(sites/acres)	0/0	0/0
Hazardous material sites	(identified/cleaned)	0/0	1/1
<sup>1</sup> Timber data is based upon 5.33 years (June 2, 1995 through Sept. 30, 2000) <sup>2</sup> Roads closed to the general public, but retained for administrative or legal access. <sup>3</sup> Many permits/leases are renewed and/or transferred more than once during any ten year period due to base property sales, leases, and other legal vehicles. The KFRA has a total of 96 Allotments and approximately 13,000 AUMs. <sup>4</sup> Process began in FY99 and is scheduled to continue through FY2008.			

## Budget and Employment

In fiscal year 2000, the Klamath Falls Resource Area had a total appropriation of \$4.2 million. This included \$240,000 for Jobs-in-the-Woods program; \$704,000 for Management of Lands and Resources (MLR); \$1,174,000 for Oregon and California Railroad Lands (O&C); \$1,184,000 for Forest Ecosystem Health and Recovery; \$467,000 for prescribed fire; \$200,000 for Pipeline Recreation; and \$231,000 for Pipeline Timber. See Table 3 for the five-year budget trend for the Klamath Falls Resource Area.

Table 3. Klamath Falls Resource Area Budget				
FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
\$3,455,000	\$3,466,000	\$4,075,000	\$3,500,000	\$4,200,000

### Jobs-in-the-Woods

The Jobs-in-the-Woods program was established to help mitigate the economic and social impacts on communities from reduced timber harvesting due to direction in the Northwest Forest Plan. This program was designed to provide jobs and incomes while investing in the ecosystem. Fiscal Year 2000 was the sixth year of this program. Projects included juniper woodland restoration, bitterbrush planting, road inventory, and fuel reduction.

### Employment

Permanent employment has been relatively stable during the past six years. In fiscal year 2000, there were 33 permanent employees on the resource area. The number of temporary, term, and co-operative education student employees varied throughout the year with a total of 63 employed at some time during the year.

## Aquatic Conservation Strategy Implementation

The Aquatic Conservation Strategy (ACS) was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems. A set of Aquatic Conservation Strategy objectives were developed in the Northwest Forest Plan, to guide the review and implementation of management activities. The four components of the strategy -- Riparian Reserves, Key Watersheds, Watershed Analysis, and Watershed Restoration -- are designed to work together to maintain and restore the productivity and resiliency of riparian and aquatic ecosystems.

### Riparian Reserves

Riparian Reserves are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines from the Northwest Forest Plan (NFP) Record of Decision (ROD) apply. Riparian Reserves are established along the margins of standing or flowing water, intermittent stream channels and ephemeral ponds, and wetlands. In FY 2000, approximately 146 acres of Riparian Reserves were delineated along 3.1 miles perennial and intermittent streams. These reserves were delineated within planned timber sale units.

### Watershed Analysis and Key Watersheds

Watershed analysis is required by the NFP Record of Decision, prior to implementing activities in Key watersheds. Watershed analyses should also be conducted in other watersheds as a basis for ecosystem planning and management. The primary purpose is to provide decision makers with an understanding of the ecological structure, functions, processes, and interactions occurring in a watershed along with the wide spectrum of human uses.

This information will be utilized in National Environmental Policy Act (NEPA) documentation for specific projects and to facilitate compliance with the Endangered Species Act (ESA) and Clean Water Act (CWA) by providing

additional information for consultation with other agencies.

Watershed analyses include:

- \$ Analysis of at-risk fish species and stocks, their presence, habitat conditions and restoration needs;
- \$ Descriptions of the landscape over time, including the impacts of humans, their role in shaping the landscape, and the effects of fire;
- \$ The distribution and abundance of species and populations throughout the watershed;
- \$ Characterization of the geologic and hydrologic conditions of the watershed.

This information is obtained from a variety of sources, including field inventory and observation, agency records, old maps and photos, and survey records.

The following Table 4 shows the status of watershed analysis for the Klamath Falls Resource Area. To date, watershed analyses have been completed for all lands covered by the NFP. An ongoing watershed analysis covers a block of approximately 112,000 acres in the eastern portion of the resource area, outside of the NFP area. This area is shown in the table as the Gerber/Willow Valley watershed. The remaining lands within the resource area are scattered parcels where resource management issues will be addressed on a case-by-case basis.

<b>Table 4. Watershed Analysis Status</b>				
<b>Watershed Analysis Areas</b>	<b>Completion Date</b>	<b>Number of key watersheds</b>	<b>BLM Acres</b>	<b>Percent of total acres</b>
<b>Jenny Creek* Watershed</b>	February, 1995	1 (Jenny Creek)	12,084 acres	6%
<b>Spencer Creek Watershed</b>	August, 1995	2 (Spencer Creek, Clover Creek)	8,810 acres	4%
<b>Topsy/Pokegama Landscape</b>	July, 1996	0	30,457 acres	14%
<b>Total Completed To Date</b>	NA	NA	51,351 acres	24%
<b>Ongoing FY 2001 Analysis</b>	Gerber/Willow Valley Watershed	0	~112,000 acres	53%
<b>Remaining FY 2001+**</b>	To be determined	0	49,649 acres	23%
<b>Total</b>	NA	3	213,000 acres	100%
*Completed in conjunction with Medford District <b>** After Gerber/Willow Valley WA is completed, all main watersheds will have been completed. There will be isolated parcels remaining that will require watershed analysis as time and funding allows.</b>				

### State-listed Clean Water Act 303d Streams

Section 303(d) of the Clean Water Act requires states to submit to the Environmental Protection Agency (EPA) a list of those waters which do not meet water quality standards as a result of either point, or non-point, sources, and which are in need of a total maximum daily load (TMDL) calculation as an aid in making progress towards solving the segment's water quality problems. Table 5 lists eight state-listed streams, plus Agency Lake, in the KFRA identified as water-quality limited water bodies by the Department of Environmental Quality (DEQ).

<b>Table 5. State Listed 303(d) Water Bodies in the Klamath Falls Resource Area</b>		
<b>Stream or Water body Name</b>	<b>Basin/Sub Basin</b>	<b>Criteria for Listing</b>
Barnes Valley Creek	Klamath/Lost River	Temperature-Summer
Long Branch Creek	Klamath/Lost River	Temperature-Summer
Miller Creek	Klamath/Lost River	Temperature-Summer
Klamath River	Klamath/Lost River	Temperature-Summer
Clover Creek	Klamath/Upper Klamath	Habitat Modification, Sediment
Johnson Creek	Klamath/Upper Klamath	Temperature-Summer
Miners Creek	Klamath/Upper Klamath	Sediment
Spencer Creek	Klamath/Upper Klamath	Biological Criteria-Benthic Macro-invertebrates, Habitat Modification, Sediment
Agency Lake (the BLM Wood River Wetland flows into Agency Lake)	Klamath/Upper Klamath	Chlorophyll a (Summer), Dissolved Oxygen, pH (Summer)

## Watershed Restoration

### Roads

Watershed restoration involving road treatments ranges from full decommissioning to simple upgrading. Much of the road restoration work completed to date has been connected with timber sale planning. During the planning and lay out process, roads are identified for repairs, closures, or obliterations. With the large amount of mixed ownership in the forested lands, coordination with private landowners and other land management agencies is crucial to the success of any proposed road projects. Watershed analyses and coordinated planning efforts like the Spencer Creek Coordinated Resource Management Plan (CRMP) provide a framework for road treatment decisions. During FY 2000, 1.3 miles of roads were decommissioned, 0.9 miles of roads were closed, and 4.25 miles were resurfaced. One-fifth of a mile of road was obliterated in the riparian zone of Clover Creek. In addition, fish passage was improved in Barnes Valley Creek by replacing a monolithic, concrete, low water crossing with a concrete padded, crushed rock, low water crossing.

### Riparian Habitat Enhancement

Treatments that help maintain large conifers in Riparian Reserves are an important component of watershed restoration. Silvicultural practices have been implemented within riparian reserves to control stocking, re-establish and manage stands, and acquire desired vegetation characteristics needed to attain aquatic conservation strategy objectives. Silvicultural prescriptions are written to maintain uneven aged stands and to maintain and improve the health and resiliency of the shade intolerant species (ponderosa pine, sugar pine, and Douglas fir). Understory reduction prescriptions are used to reduce the density of shade-tolerant species under the tree canopy for the purpose of reducing fire risk and enhancing the health of desired overstory trees. The thinning of densely stocked young stands and the reforestation of shrub-dominated stands with conifers may also be used to enhance riparian habitat.

During FY 2000, silvicultural prescriptions were implemented in approximately 37 acres of riparian reserves as part of the Clover Hookup and Muddy Tom timber sales. Additionally, work was completed on approximately 10 acres of a planned 80-acre riparian thin in Spencer Creek.

## **Stream Restoration**

Instream restoration projects are necessary when passive restoration will not meet resource goals in the short-term. Such projects are designed to restore instream habitat complexity, and can include bank stabilization, channel realignment, or addition of boulders and woody debris. Potential instream projects are identified during watershed analysis or RMP development. In FY 2000, bank stabilization occurred along one-fifth of a mile of Clover Creek, in concert with road obliteration. Floodplain connectivity was restored along 300 feet of Barnes Valley Creek, in the vicinity of the low water crossing replacement. Additionally, 0.7 miles of the Wood River were realigned to historic conditions, thereby restoring instream and wetland habitat.

## **Late-Successional Reserves and Assessments**

The Klamath Falls Resource Area does not contain any mapped Late Successional Reserves (LSRs). The closest mapped Late Successional Reserve is to the north on the adjoining Winema National Forest.

The Klamath Falls Resource Area contains fifteen unmapped Late Successional Reserves (UMLSRs), three District Designated Reserves (DDRs), and one Special Area (an Environmental Education Area), all designated for old-growth values. Each reserve is approximately 100 acres in size for a total of approximately 1,900 acres in reserves designated for late-successional values. Unmapped LSRs function as habitat patches that provide connectivity between larger areas of old-growth habitat within mapped LSRs.

A Late Successional Reserve Assessment (LSRA) must be written for management of unmapped LSRs. An LSRA is in preparation that will assess all 19 of the reserves in the resource area. In FY 1997, vascular plant and non-vascular cryptogam (moss, liverworts, lichens, and fungi) inventories were conducted using a combination of cursory and intuitive survey methods to assess the bio-diversity of each reserve. The inventory included collection, identification, photographing, and curing of selected specimens. In FY 1997, forest stand conditions in all 19 reserves were sampled using an adaptation of the procedures on the "Forest Survey Handbook, BLM Manual Supplement, Handbook 5250-1". Along with historical descriptions and past harvest data, this information served as a basis for written assessments of stand conditions in each reserve. Editing formatted each of these individual assessments similarly, and management recommendations are being developed during FY 01. The Late Successional Reserve Assessment will be submitted to the Regional Ecosystem Office (REO) for review and approval.

## **Matrix-Retention of Late Successional Forest Patches,15% Analysis**

The NFP/ROD (page C-44) and Klamath Falls Resource Area RMP ROD (page 56) require that the BLM and USFS provide for the retention of late-successional/old-growth fragments in the matrix, where little remains. The standards and guidelines are to be applied to any fifth field watershed in which federal forest lands are currently comprised of 15 percent or less late-successional forest, considering all land allocations. In preparing watershed analysis documents, the Resource Area completed an initial screening of watersheds including lands managed by the BLM-Redding Field Office, BLM-Alturas Field Office, BLM-Medford District Office, Klamath National Forest, Modoc National Forest, Rogue River National Forest, Winema National Forest, and the Fish and Wildlife Service, for compliance with the 15 percent retention standards and guidelines. Results from this analysis were reported in the watershed analysis documents. All Klamath Falls Resource Area FY 95 to FY 2000 sales sold under the NFP have complied with the 15 percent rule using the initial analysis.

A joint BLM/FS Instruction Memorandum was issued on September 14, 1998. This provided the final guidance for implementing the 15 percent standards and guidelines throughout the area covered by the NFP. Implementation of this guidance is required for all actions with decisions beginning October 1, 1999. A final 15 percent analysis was completed in 1999. Only the Lower Klamath Lake and Butte Creek fifth field watersheds have less than 15 percent late-successional forest (see Table 6). Regeneration harvest in these two watersheds will be deferred until the 15 percent standard is met.

<b>Table 6. Fifth Field Watersheds with Deferred Regeneration Harvest</b>		
	Federal Forest 80+ Years Old	Harvestable Acres Deferred
Lower Klamath Lake	11.1%	142
Butte Creek	11.3%	607
Total Deferred Regeneration Harvest Acres		749
* The total 749 deferred acres represent about 3 percent of the Resource Area's Matrix acres. Deferring these acres from harvesting has no significant impact on the sustainable ASQ for the Resource Area.		

## Fire/Fuels Management

On the Klamath Falls Resource Area in FY 2000 there were seven wildfires, burning approximately 144 acres (see Table 7). Prescribed fire is used to reduce hazardous fuels accumulations so that wildfires are reduced in size and intensity when they do occur. Another benefit of prescribed fire is to mimic natural wildfire in a mosaic pattern to benefit the total ecosystem (plants, animals, fish, soils, trees, and human uses). The BLM/Klamath Falls Resource Area is one of the leading Federal agencies in the field of prescribed fire management.

<b>Table 7. Fire/Fuels Management</b>		
Prescribed Fire (acres)	Personnel Accepting Assignments to On Resource Area Wildfires	Personnel Accepting Assignments to Off Resource Area Wildfires
<b>FY 1995</b>		
1,813 ac	12	2
<b>FY 1996</b>		
4,120 ac	14	2
<b>FY 1997</b>		
4,818 ac	14	0
<b>FY 1998</b>		
4,432 ac	5	2
<b>FY 1999</b>		
*11,529 ac	2	8
<b>FY 2000</b>		
1,730 ac	32	25
*Due to prescribed fire contracts being unable to implement burns within prescription, acres are deferred from one year to the next. Thus, the increase in acres in FY 1999 are carryover acres from earlier years.		

## **Air Quality**

The air quality program is mostly related to smoke impacts from natural and prescribed fires. The Resource Area has adopted the concept that the prescribed fire program is an integral part of ecosystem management under the RMP. Special care is taken to ensure that all prescribed fire projects are implemented in compliance with the Oregon Smoke Management Plan. Air quality considerations for the prescribed fire program include: burning when good smoke dispersal exists, and prompt mop-up of burned units to reduce residual smoke.

## **Water and Soils**

Fence repairs and maintenance were completed on 10 riparian enclosures and riparian pastures. These fences were established to reduce or eliminate livestock grazing impacts to the riparian areas.

Riparian photo point monitoring was completed at 58 points on 8 streams, and at 3 points in one wet meadow.

Streambank Stability ratings were completed on Ben Hall Creek and Wildhorse Creek at the end of the scheduled livestock season of use. Both creeks had stability ratings of greater than 99%.

Riparian Greenline and Cross Section monitoring studies were reread on 4 streams in the Gerber Block. Three of these streams, Barnes Valley Creek, Pitchlog Creek, and Long Branch Creek, are important spawning habitat for the Shortnose sucker, which is federally-listed as endangered under the Endangered Species Act. The other stream, Antelope Creek, has high water quality and a well developed riparian vegetation community.

In order to quantify levels of soil disturbance resulting from timber harvest, the resource area has been conducting quantitative soil monitoring since 1997. Quantitative monitoring has been conducted for two timber sales on the resource area. No resource area timber sales or treatments were monitored in FY 2000, however, analysis of quantitative soil monitoring data collected on the FY 1999 Kakapoo Stew timber sale was completed.

## **RMP Best Management Practices**

Best Management Practices are identified and required by the Clean Water Act as amended by the Water Quality Act of 1987. Best Management Practices are defined as methods, measures, or practices to protect water quality or soil properties. Best Management Practices are selected during the NEPA interdisciplinary process on a site specific basis to meet overall ecosystem management goals. The Klamath Falls Resource Area Record of Decision and Resource Management Plan lists Best Management Practices for various projects or activities that may be considered during the design of a project. Monitoring of the RMP during FY 2000 has shown that Best Management Practices have been appropriately implemented with a high degree of success.

## **Wildlife Habitat**

### **Big Game Habitat**

Cooperative road closures continue to be maintained for elk and other big game management both on the eastside and the westside of the Resource Area. Gates and other closures continue to be maintained. Additional road closures are planned in future years to reduce open road density closer to 1.5 miles per section.

Thermal clumps were designed into the timber sales during the layout phase to provide extra escape and thermal cover within the timber harvest units. This is especially important in the winter range areas.

### **Elk Habitat**

A Challenge Cost Share with Rocky Mountain Elk Foundation to improve winter range habitat was approved in 1999 and the contract was completed during FY 2000. This work involves mechanical treatment of 250 acres of

invasive juniper on Swan Lake Rim. The piles will be burned and the area will be planted with bitterbrush seedlings during FY 2001.

## **Mule-deer Habitat**

In FY 2000, the following projects were completed to improve mule deer habitat:

- planting of bitter-brush seedlings at three different project areas -- approximately 60 acres total,
- hand removal of encroaching juniper at Willow Valley chaining,
- contracting for mechanical treatment to reduce juniper invasion on big game winter ranges on Swan Lake Rim,
- completion of 45 acres of juniper removal on Harpold winter range. The excess fuels on the treated areas will be piled and burned in the fall of 2000.

## **Antelope Habitat**

A contract was written to remove encroaching juniper in the Bumpheads area. This area was historically a trend route for ODFW to assess the health of the Interstate antelope herd. In recent years the juniper has gotten too tall and the antelope no longer use the area or are not visible to the surveyors. Approximately 1200 acres are under contract and the work will be started in fall of 2000.

## **Nest Sites, Activity Centers, and Rookeries**

### **Bald Eagle**

See discussion under Threatened and Endangered Species.

### **Golden Eagle**

Six historic nest territories were monitored this year. Two sites were occupied and had nesting activity. Seasonal restrictions and distance buffers are applied to proposed activities in the vicinity of golden eagle nest sites.

### **Osprey**

Historic nest sites were checked for occupancy and nesting. Of the four sites checked, three sites were active with birds incubating. The remaining sites were unoccupied or no adult was seen.

## **Neo-tropical Migratory Birds**

Baseline surveys and monitoring for neotropical migratory birds is a requirement under the Upper Klamath Basin and Wood River RMP/EIS. Other sampling on the resource area is being conducted to collect baseline data on presence/absence and trends of bird species in grazing allotments, within habitats where there are management concerns or threats, or for projects such as the relicensing of the hydro power operations on the Klamath River.

Other umbrella documents that recommend neotropical migratory bird surveys within certain priority habitats are published by Partners in Flight, and include *"Management, Research and Monitoring Priorities for the Conservation of Neotropical Migratory Landbirds that Breed in Oregon"*, and *"Birds in a Sagebrush Sea: Managing Sagebrush Habitats for Bird Communities"*.

- C Continued the project work under cooperative agreement with the Klamath Bird Observatory and the Pacific Southwest Research Station of the U.S. Forest Service. Partners in this project included the World Wildlife Fund, Winema National Forest, Klamath Basin National Wildlife Refuge, and Point Reyes Bird Observatory. Demographic stations are set up in riparian areas in the Klamath River Canyon within the boundaries of the J.C. Boyle Hydro power Project, in grazing allotments, and other areas of concern, including portions of the Wood River Wetland. During the breeding season, the demographic station with the highest number of birds was along the Klamath River. The stations with the greatest species diversity were at Johnson Creek (15) on Surveyor Mountain, and along the Klamath River (13), respectively. During fall migration, the sites with the highest number of birds were Johnson Creek, and Barnes Valley Creek which is a tributary to Gerber Reservoir. The site with the greatest species diversity was along the Klamath River (12). Point count surveys were conducted across a variety of habitats with the objective of learning more about population trends, landbird/habitat relationships, and presence/absence. This data will also be used for BLM's evaluation of the FERC relicensing of power projects on the Klamath River and grazing allotments. Data from this study is in the analysis phase.



- C In cooperation with the Klamath Bird Observatory, BLM continued its landbird study in habitats including sagebrush, juniper/sage, old growth juniper, and juniper/ponderosa pine. The objectives of the study are to evaluate the condition and trends within these habitat types and to help evaluate management actions related to juniper harvest treatments. Point count surveys were conducted at 93 plots during the breeding season.

## Threatened/Endangered Species

### Northern Spotted Owl

The Klamath Falls Resource Area currently contains 21,260 acres of suitable spotted owl habitat. Of this, 6,676 acres are reserved or maintained as owl habitat. The reserves include 100-acre core areas near nesting owls plus other district-designated reserves. Riparian areas and preferred habitat areas are also managed to maintain owl habitat.

Annual monitoring is conducted to determine spotted owl nesting activity. During 2000, the Klamath Falls Resource Area (KFRA) was involved in monitoring the occupancy, reproductive status, and banding status of thirteen historic spotted owl sites. The Bureau of Land Management works cooperatively with U.S. Timberlands in monitoring five of the thirteen sites. Of the thirteen sites monitored, ten were occupied with spotted owl pairs. Twenty-one individual adult/subadult owls were detected, and color band confirmations were made for nineteen birds. At one owl site, a new spotted owl replaced a bird that had previously occupied that location. The owl was banded with a US Fish and Wildlife Service (USFWS) metal band and a color band that is the target color designated to that site. Five owl pairs were confirmed to be nesting and eight young fledged from those sites. Five of the eight young were banded with a USFWS band and a color band.

The KFRA also surveyed 1900 acres of suitable spotted owl habitat in FY 2000. The KFRA worked cooperatively with Boise Cascade to survey the Chicken Hills area that was proposed for timber harvest in the year 2000. A single, adult male spotted owl was located. A temporary site number has been assigned to the area. A temporary site number has also been assigned to the Buck Mountain area. Another single male owl was located there during night surveys. More information is needed to before a site center is determined at either location.

Annual monitoring is conducted to determine owl nesting activity and is displayed in Table 8.

Table 8. Northern Spotted Owl Monitoring Activity by Fiscal Year			
Survey Year	Sites Surveyed <sup>1</sup>	No. Birds Observed <sup>2</sup>	Proportion of Sites Occupied
1996	17	13	82%
1997	13	6	69%
1998	13	9	69%
1999	13	9	69%
2000	13	21	77%
<sup>1</sup> Sites that had one or more visits. May include some sites that did not receive four visits.			
<sup>2</sup> Includes singles or pairs.			

### Bald Eagle (Threatened)

Fourteen bald eagle nest territories and three roost areas are known to occur on BLM lands within the Klamath Falls resource area. In 2000, thirteen of the fourteen nest territories were occupied with at least one adult eagle, including one new nest territory. Of the occupied territories, eight were successful in fledging young. Nest sites were monitored cooperatively with Oregon Cooperative Fish & Wildlife Research Unit, Oregon State University and U.S. Timberlands.

Three bald eagle sites were monitored in FY 2000 to monitor the potential affects from disturbances in the general area of the nest site. One nest was monitored during prescribed fire activities to determine if fire activities or smoke appeared to disturb the young or adults at this nest site. The other two nests were monitored during road and boat ramp construction. All three activities appeared to have little disturbance on the adults or young. Seasonal restrictions and distance buffers are applied to proposed activities in the vicinity of bald eagle territories and roost sites.



**Figure 7. Bald Eagle in Klamath Falls Resource Area**

### **Peregrine Falcon (Bureau Sensitive)**

The peregrine falcon was de-listed from the Endangered Species Act in 1999. A peregrine falcon specialist was contracted to analyze potential peregrine falcon habitat for the Lakeview District. The KFRA has four areas rated as high for nesting potential. All four sites were surveyed in FY 2000 and all four sites were occupied by prairie falcons. Three of the four sites nested and produced young. The other site had an individual prairie falcon occupying the site. Future surveys and monitoring will continue at these sites to help ascertain the presence/absence of peregrine falcons within the resource area.

### **Yellow Rails (Sensitive Species)**

BLM policy directs that our actions should avoid contributing to the need to list these species as threatened or endangered. The yellow rail was thought to be extirpated from the western U.S., until it was rediscovered in the Wood River Valley in 1982. The BLM's Fourmile Creek wetland harbors the largest of four breeding populations in Oregon. For the past five years, the resource area has participated in a cooperative agreement between The Nature Conservancy, Winema National Forest, and the Oregon Department of Fish and Wildlife to conduct a study of breeding yellow rails on the Fourmile and Wood River Wetland. All areas were surveyed in FY 2000. In general, production appeared to be less than in past years.

### **Townsend's Big Eared Bat (Sensitive Species)**

Under the RMP, the resource area is to minimize human disturbance to the maternity colony of these bats at Salt Caves on the Klamath River. An issue at this site has been the indication that rafts stop at the river near this maternity colony. As a result, a seasonal closure is in place from May 1 through September 15 at this site. In FY 2000, a Draft Cave Management Plan was written, which includes recommendations for long-term adaptive management. The final Cave Management Plan will be included as an amendment to the Klamath River Management Plan that will be written in 2001.

### **Oregon Spotted Frog (Candidate Species)**

The Oregon spotted frog is known to exist at three locations (Tunnel Creek, Wood River Wetland, and Fourmile Creek) within the KFRA. The majority of the Wood River Wetland area was surveyed in mid-March for egg masses to determine if the spotted frog may have established new territories due to the expansion of potential habitat within the interior of the wetland. Oregon spotted frogs were found in past habitat locations and six new sites were

identified within the Wood River Wetland. Attempts to remove Bull Frog tadpoles resulted in 1500 tadpoles being removed using traps and nets.

## **Special Status Species/Habitat, Wildlife**

### **Survey and Manage/Protection Buffer Species**

#### **Mollusks**

##### **Terrestrial**

Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (Crater Lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband)) may occur within the resource area. Pre-disturbance surveys for terrestrial mollusks were conducted on 900 acres of public land in the fall and spring for four future project areas. A total of 132 sites of *P. coeruleum* were identified. No other Survey and Manage terrestrial mollusks were found.

Pre-disturbance surveys for S&M terrestrial mollusks will continue for all potential ground disturbing activities. Management recommendations for terrestrial mollusk species (Management Recommendations for Terrestrial Mollusk Species *Prophysaon coeruleum* & *P. dubium* V.2.0) will be administered.

##### **Aquatic**

Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. Pre-disturbance surveys for aquatic mollusks were conducted on approximately ten acres of Spencer Creek. No S&M aquatic mollusk species were found. Pre-disturbance surveys for S&M aquatic mollusks will continue for all potential ground disturbing activities that may impact aquatic mollusks. Current management recommendations for aquatic mollusk species. (Management Recommendations for Survey and Manage Aquatic Mollusks Version 2.0) will be administered.

## **Other Species of Concern**

This category includes other species that have received special tracking emphasis on the Resource Area.

### **Accipiters**

#### **Northern Goshawk**

Known goshawk nests are monitored for occupancy, nesting, and reproductive success. Nine historic northern goshawk nest sites were monitored. Four of these nest sites produced a total of seven nestlings. Adults were located at one other site, but nesting status was undetermined. Goshawk surveys were also conducted in areas of past sightings and potential habitat. No goshawks were detected during these surveys.

#### **Cooper's Hawk**

Eight historic Cooper's hawk nests were monitored for occupancy and nesting success. Two new nest sites were located in FY 2000. One of the historic sites and the two new sites had nesting activity.

#### **Sharp-shinned Hawk**

Six historic sharp-shinned hawk nests were checked for occupancy and nesting success and two new nest sites were located in 2000. Three of these sites were occupied by nesting birds.

#### **Great Gray Owl**

The great gray owl is listed as a protection buffer species in the Northwest Forest Plan Record of Decision. The Great Gray owl is not a Bureau sensitive species, but is a species that is tracked to obtain more information as to its status. Since 1996 the KFRA has conducted surveys to protocol in areas where ground-disturbing events are planned. Great gray owls have been detected in nine different areas in the resource area.

In FY 2000, nineteen different locations were surveyed for great gray owl activity. There are five known territories with one of them being occupied by a pair of owls. The remaining territories are classified as territorial single birds.

The great gray owl territories are concentrated in the Johnson Creek drainage and the Hayden Creek drainage. One territory is near Burton Butte. Great gray owl responses have been heard in four other locations, but these have not yet been confirmed as occupied territories.

### **Forest Carnivores**

Surveys for marten (*Martes americana*), fisher (*Martes pennanti*), wolverine (*Gulo gulo*), and lynx (*Lynx canadensis*) were conducted again in 2000. Eighteen photographic bait stations, using a standardized protocol (Zeilinski and Kucera, 1995), were placed in areas that had the highest likelihood of these species presence. Marten was the only target species that was detected. Five marten, one black bear, seven bobcat and winter sites were located. No fisher, wolverine, or lynx were detected. Each station is intended to cover two full sections of land, the approximate size of the smallest home range for these target species. A total of 36 sections, or 23,040 acres, were surveyed.

### **Herptiles**

During the FY 2000 field season the first of a two-year Herpetological Inventory of the Upper Klamath River Canyon was conducted. The survey area encompassed 16 miles on both sides of the Upper Klamath River Canyon. The surveys include both aspects of the canyon, from the river, up slope to the rim. Main drainages into the Upper Klamath River were also included. The elevation in the study area ranged from 2,790 to 4,420 feet. A wide variety of reptiles and amphibians were found in and around the study area. A diversity in habitats like talus and rocky hillsides provide good habitat for lizards and den sites for snakes, while amphibians inhabit moist sites around seeps, springs and along the river. A total of 27 species may potentially occur within the study area. Sixteen of these species were detected in the study area during the first season of this inventory conducted by the BLM and PacifiCorp. The study will continue at least until the 2002 field season. The snakes discovered during the inventory included the California mountain kingsnake, common kingsnake, western rattlesnake, common garter snake, western terrestrial garter snake, gopher snake, striped whipsnake, rubber boa and yellow-bellied racer. Prior to this inventory, the common kingsnake and the striped whipsnake had not been formally documented in the study area. The lizards discovered during the inventory included the western fence lizard, southern alligator lizard, northern sagebrush lizard, and western skink. The amphibians discovered during the inventory included the western toad, and Pacific tree frog. The western pond turtle was also found during the inventory period. The Oregon State status species that were found in the study area during the inventory were the California mountain kingsnake, northern sagebrush lizard, western toad and western pond turtle. The herptile species that have been formally documented by BLM or other sources in and around the study area prior to the inventory include the Pacific giant salamander, roughskin newt, long-toed salamander, foothill yellow-legged frog, bullfrog, red-eared slider, northern alligator lizard, and ring-necked snake. There are three herptile species that potentially occur, but have not been documented yet in the study area. These include the sharptail snake, night snake, and short-horned lizard.

### **Sage Grouse**

This species is ranked as a BLM species of special concern and is being considered for listing under the Endangered Species Act. KFRA began monitoring historic lek sites in FY 2000. During the spring lekking period, four lek sites were monitored for sage grouse activity. No birds were seen using the lek sites. The areas around these historic sites were also checked for potential habitat improvement projects.

## **Fish Habitat**

During Fiscal Year (FY) 2000, the Resource Area employed two fisheries biologists. The biologists conducted extensive planning and consultation on multiple projects in the Resource Area including but not limited to the Wood River Restoration Project (see Wood River section), Barnes Valley low water ford, and Clover Creek road decommissioning. A rotary screw trap, serber samplers, ocular verification, and electro-shocking surveys were utilized to the monitor fisheries resources for FY 2000.

## **Threatened/Endangered Species**

### **Lost River and Shortnose Suckers**

Lost River suckers (*Deltistes luxatus*) and Shortnose suckers (*Chasmistes brevirostris*) occupy lakes as adults and spawn in streams during the spring and early summer. Both species spawn in the Wood River and are thought to

spawn in the Wild & Scenic section of the Klamath River in the resource area. The Wood River and Four Mile Creek are designated as critical habitat for both species even though suckers are not currently found in Four Mile Creek. Four Mile Creek is historic habitat and the BLM portion of the stream is in properly functioning condition. Fish cannot enter the stream because of downstream barriers. The tributaries to Gerber Reservoir are critical habitat and contain shortnose suckers. Miller Creek is critical habitat for both sucker species and may contain populations of both species.

Monitoring of fish populations in the Wood River occurred throughout FY 2000 using a rotary screw trap to capture and record redband trout and juvenile sucker movements, and other aquatic organisms. This monitoring is part of the BLM annual requirement from the Oregon Department of Fish and Wildlife district staff for monitoring potential affects to fishery resources caused by the restoration of the Wood River channel.

Tributaries to Gerber Reservoir were surveyed for spawning shortnose suckers at least three times from April 17 through May 23, 2000. The tributaries checked were Wildhorse Creek, Pitchlog Creek, Barnes Valley Creek, Long Branch Creek, and Ben Hall Creek. There were two sample locations in Barnes Valley Creek; upper and lower Barnes Valley Creek. The surveys included visually identifying spawning adults, serber sampling for eggs, and visual and serber sampling for larvae. Successful spawning, presence of eggs or larvae, was documented in Barnes Valley Creek (upper and lower), Pitchlog Creek, Long Branch, and Ben Hall Creek. Neither spawning nor spawning success, was detected in Wildhorse Creek in the spring 2000 surveys.

### **Bull Trout**

The Resource Area administers one area where bull trout (*Salvelinus confluentus*) presence has been verified -- Demming Creek Ditch and Cambell Reservoir. The Resource Area administers additional potential critical habitat in Four Mile Creek, and Wood River, however, bull trout do not currently occupy these areas. No surveys for bull trout were conducted by Field Office staff in FY 2000.

## **Aquatic Habitat Restoration**

Barnes Valley low water crossing was completed in FY 2000. The project is designed to improve fish passage in Barnes Valley at the ford and improve fluvial process above and below the crossing. The project should help endangered shortnose suckers, as well as redband trout, to pass the ford at lower flows.

Approximately 0.25 miles of restoration of the Wood River channel was completed in FY 2000. The project restored lower Wood River to more natural meander patterns and depths, to improve fish habitat and water quality (see Wood River section).

Road activities to improve water quality continue to be a focus of the resource area where possible. In FY 2000 a road sedimentation study was initiated in the Spencer Creek watershed, (see Water and Soils Monitoring section). This study is expected to identify key road features (physical and geographical) that should be targeted for improvement, and improve road management to reduce future sediment runoff.

The restoration project initiated in 1999 on Clover Creek was completed in FY 2000. The goal of the restoration project was to reduce sediment delivery to Spencer Creek and lower Clover Creek. The section of Clover Creek where the work was done is usually dry in late summer. There are Redband trout (*Oncorhynchus mykiss ssp*) populations in perennial portions of the stream both upstream and downstream of the project reach. The restoration will benefit Redband trout that migrate through Clover Creek in winter and spring. Over 900 feet of streamside road was obliterated near Clover Creek. Bank stabilization actions were taken, placement of coconut (Coir) logs and fabric, along the roadside stream bank. This restoration will allow the establishment of riparian vegetation along the stream plus provide a functioning flood plain.

## **Endangered Species Act (ESA) Section 7 Consultation**

Consultation is being continued on individual projects that have the potential to affect endangered suckers. The Resource Area contains critical habitat for both species of suckers. Critical habitat administered by the BLM for the listed sucker species is predominantly on the eastside of the resource area. There is limited critical habitat

administered by the BLM for endangered sucker species on the westside of the resource area, mostly the mainstem of the Klamath River.

## **Four Mile Creek ACEC Evaluation**

After consultation with the USFWS, Resource Area staff determined that the proposed grazing strategies on the Four Mile property may not be conducive to species recovery for federally listed bull trout and suckers. The Resource Area evaluated the Four Mile property to determine whether the area has characteristics suitable for an Area of Critical Environmental Concern (ACEC) designation. The Four Mile area was identified as suitable for potential designation as an ACEC, and a plan amendment to the Upper Klamath Basin/Wood River Wetland Resource Management Plan Environmental Impact Statement (EIS) is proposed. Public input will be sought during the plan amendment process. Approval of the plan amendment will be made by the BLM Oregon State Director.

## **Klamath Wild and Scenic River Plan/Hydroelectric Relicensing**

Resource Area staff have initiated consultation with multiple state, federal, and tribal agencies for the Upper Klamath River Wild and Scenic River Management Plan Environmental Impact Statement (EIS). This Klamath River Plan EIS may result in a plan amendment to the Klamath Falls Resource Area Record of Decision and Resource Management Plan (1995). The federally listed Lost River and shortnose suckers may be affected by this proposed plan amendment, therefore, informal consultation with the USFWS is currently ongoing.

Resource Area staff have begun coordination with state, federal, and tribal agencies on the proposed relicensing of the PacifiCorp Klamath River Project (FERC License 2082). Listed species within the project area (Lost River and shortnose suckers) as well as listed species below the project (coho salmon) are potentially affected by this project. Resource Area staff are consulting with the USFWS and the National Marine Fisheries Service (NMFS) on project impacts affecting BLM administered lands.

## **Special Status and SEIS Special Attention Species, Botany**

### **Survey and Manage Species and Protection Buffer Species**

Surveys for special status and special attention species are being conducted prior to ground disturbing activities. Spring and fall Survey and Manage (S&M) fungi surveys were conducted to existing protocols (“Survey Protocols for Seven Protection Buffer Fungi Version 1.3”) in two proposed timber sale areas (Muddy Tom and Clover Hookup timber sales) which total approximately 2,600 acres. Bryophyte surveys were conducted in potential habitat within these areas in FY 1999. Klamath Falls Resource Area has no potential habitat for any S&M Component 1 and 2 lichens (species which require pre-disturbance surveys), therefore no lichen surveys were conducted. Spring and fall S&M surveys were also conducted to existing protocols in the following project areas: Surveyor Mountain planned timber sale, Spencer Creek riparian hand thin, Lower Spencer District Designated Reserve, and Chase Mountain planned prescribed burn. These areas total approximately 900 acres. S&M bryophyte surveys were conducted in conjunction with the fungi surveys in these project areas (see Tables 9 and 10).

<b>Table 9. Total Number of Sites by Taxa Group for Special Attention Plant Species (09/30/00)</b>					
<b>Taxa Group</b>	<b>Component 1</b>	<b>Component 2</b>	<b>Component 3</b>	<b>Component 4</b>	<b>Protection Buffer</b>
Fungi	53	1	1,432	965	3
Lichens	0	0	0	0	0
Bryophytes	0	0	0	0	0
Vascular Plants	4	4	0	0	0
<b>Totals</b>	<b>57</b>	<b>5</b>	<b>1,432</b>	<b>965</b>	<b>3</b>

<b>Table 10. Total Number of Species by Taxa Group for Special Attention Plant Species (09/30/00)</b>					
<b>Taxa Group</b>	<b>Component 1</b>	<b>Component 2</b>	<b>Component 3</b>	<b>Component 4</b>	<b>Protection Buffer</b>
Fungi	4	1	21	7	2
Lichens	0	0	0	0	0
Bryophytes	0	0	0	0	0
Vascular Plants	1	1	0	0	0
<b>Totals</b>	<b>5</b>	<b>2</b>	<b>21</b>	<b>7</b>	<b>2</b>

There are approximately 400 species listed in the Northwest Forest Plan and Klamath Falls Resource Management Plan (RMP) as either survey and manage or protection buffer species. Surveys were conducted for S&M species according to survey protocols that exist at the time of the surveys for a given taxa. Currently, survey protocols have been developed for S&M Component 1 and 2 vascular plants, Component 2 and Protection Buffer fungi, Component 2 and Protection Buffer bryophytes, and Component 2 lichens. Surveys for S&M species began as early as 1995 on the Klamath Falls Resource Area, and these efforts continue. Management Recommendations have been developed for S&M Component 1 and 2 vascular plants, Component 1, 2, and Protection Buffer fungi, and bryophyte species, Component 1 fungi, Component 1, 2, and Protection Buffer bryophytes, and S&M lichens. Special status and special attention species sites on the Klamath Falls Resource Area are documented and are managed according to management recommendations for the particular species. Klamath Falls Resource Area participates in entering S&M data into the Interagency Species Management System (ISMS). In addition, data are maintained in an electronic spreadsheet containing all known special attention species sites. Many of the staff involved with survey and manage or protection buffer species have been trained in implementing survey protocols and species identification.

## Special Status Species

Two areas (East Gerber and Bear Valley) totaling approximately 13,760 acres were surveyed for special status vascular plants. Six new populations of fringed campion (*Silene nuda* ssp. *insectivora*-Bureau tracking) and three new populations of long-bearded mariposa lily (*Calochortus longebarbatus* var. *longebarbatus*-Bureau tracking) were found (Table 11). The long-bearded mariposa lily was moved from Oregon Natural Heritage Program List 1, to List 4 at the biennial plant status review meeting, and therefore, moved from Bureau Sensitive list to Bureau Tracking list under OR/WA BLM policy. This change in status is reflected in Table 11.

<b>Table 11. Total Number of Sites by Taxa Group for Special Status Plant Species (09/30/00)</b>					
<b>Taxa Group</b>	<b>Federal Listed</b>	<b>Federal Candidate</b>	<b>Bureau Sensitive</b>	<b>Assessment Species</b>	<b>Tracking Species</b>
Fungi (1 species)	0	0	0	0	37
Lichens (1 species)	0	0	0	0	0
Bryophytes (0 species)	0	0	0	0	0
Vascular Plants (7 species)	0	0	128	0	69

## Special Areas

### Areas of Critical Environmental Concern, Research Natural Areas, Botanical Habitat Areas, Environmental Education Areas

The Klamath Falls Resource Area has five Areas of Critical Environmental Concern (ACEC) and Research Natural Areas (RNA) totaling approximately 12,140 acres; three Botanical Habitat Areas totaling 570 acres; and two Environmental Education Areas totaling 180 acres. One additional area has been proposed as an ACEC, which is 1,196 acres in size. Table 12 lists all Special Areas in the resource area. Only those special areas that received some specific management activities in FY 2000 are discussed below.

#### Upper Klamath River ACEC

Management of the Upper Klamath River ACEC will be addressed in the management plan for Wild and Scenic river values within the State of Oregon Wild and Scenic River/State Scenic Waterway plans. The planning effort is being initiated by the BLM in FY 2000 and will be completed in FY 2002.

#### Old Baldy Research Natural Area

A prescribed fire originally planned for FY 2000 in the Frosty Too timber sale will be implemented in 2001. The fire will be allowed to burn into the Old Baldy RNA/ACEC. The Old Baldy RNA is covered with brush, primarily ceanothus. Up to 400 acres will be burned within the RNA depending upon weather and vegetation conditions. Prescribed fire effects monitoring plots were established in 1999 according to protocols developed by the National Park Service, and pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP). The prescribed fire is being implemented by contract for the Klamath Falls Resource Area.

#### Four Mile Creek Proposed ACEC

Review by resource area specialists of biological information and comments from the U. S. Fish and Wildlife Service (USFWS), the Oregon Natural Heritage Program (ONHP), and the Oregon Natural Resources Council (ONRC), identified fishery, wildlife, and natural process values on the Four Mile Creek property as reasons for its identification as a potential ACEC. An evaluation of these values for relevance and importance was completed and concluded that the area met the criteria. Four Mile Creek was recommended for further evaluation as an area of critical environmental concern through an amendment to the Upper Klamath Basin and Wood River Wetland Resource Management Plan/Environmental Impact Statement, approved in July 1995. The plan amendment/EIS process will be initiated in FY 2001.



<b>Table 12. Special Areas</b>	
<b>Areas of Critical Environmental Concern</b>	<b>Acres</b>
Upper Klamath River	5,700 acres
Wood River Wetland	3,200 acres
Miller Canyon	2,000 acres
Yainax Butte	720 acres
Old Baldy Research Natural Area	520 acres
Fourmile Creek (Proposed)	1,196 acres
<b>Botanical Habitat Areas</b>	<b>Acres</b>
Tunnel Creek Special Botanical Area	280 acres
Bumpheads Special Botanical Area	50 acres
Alkali Lake Special Habitat Area	240 acres
<b>Environmental Education Areas</b>	<b>Acres</b>
Clover Creek Environmental Education Area	30 acres
Surveyor Forest Area Environmental Education Area	150 acres

## Wood River Wetland ACEC

Activities occurring on the 3,200 acre Wood River Wetland located in the Klamath Falls Resource Area are guided by a separate management plan entitled *Upper Klamath Basin and Wood River Wetland RMP/EIS*, completed in July of 1995. Restoration work at the wetland is coordinated with several partners, including the Klamath Tribes.

A monitoring report, specific to the Wood River Wetland, is prepared annually and distributed in March. Copies of this report are also available on request.

## FY 2000 Accomplishments

### Planning

- Completed and distributed the 1999 Monitoring Report; also collected 2000 data, as appropriate.
- Completed Re-initiation of Consultation with U.S. Fish and Wildlife Service.
- Completed Plan Conformance adjustment for the delta channel restoration of the Wood River
- Applied for permits from Oregon Division of State lands and the U.S. Army Corps of Engineers for delta channel restoration work on the Wood River, downstream of the Dike Road bridge.

### Funding

- Assistance Agreement with Oregon Trout brings approximately \$650,000 to the river channel restoration portion of the project (through grants from Bureau of Reclamation, U.S. Fish and Wildlife Service Ecosystem Restoration Office, and Pacific Corp.).
- Klamath Tribes monitored water quality and contributed to cultural resource survey (\$12,000).

### Tours/Presentations

- Sixth graders (Shasta and Peterson elementary schools)
- School staff of Chiloquin elementary schools
- Henley and Lost River high schools

- OIT (Oregon Institute of Technology) applied environmental sciences class
- Expanding Horizons Program
- Henley High School Science Staff
- Ducks Unlimited Dedication and Tour
- Roosevelt Elementary School Third Grade Wetland Discovery Day
- Keno Elementary School Fifth Grade Wetland Discovery Day
- Oregon Division of State Lands Tour
- California Joint Venture Tour
- Klamath Leadership 2001 Tour
- OIT Civil Engineering Student Tour

#### **Project Implementation**

- Completed cultural resource surveys for planned construction areas.
- Completed fifth year of monitoring.
- Installed two hunter access crossings.
- Created approximately 50 acres of waterfowl brood rearing and nesting habitat in cooperation with Ducks Unlimited and Rocky Mountain Elk Foundation (grant for \$22,000).

#### **FY 2001 Planned Projects**

- Install fish screen on Seven Mile canal diversion structure.
- Surface rock dike roads from the bridge to Seven mile Canal.
- Install floating boardwalk, interpretive signs, restroom, trail system and group interpretive site.
- Remove a portion of sheet piling from river channel constructed in 1998.
- Completed the restoration of the Wood River channel between Dike Road Bridge and Agency Lake (75 acres, 0.7 miles \$180,000).

#### **Environmental Education Areas**

The Klamath Falls Resource Area contains two Environmental Education Areas that total approximately 180 acres. Interpretive education uses at the Clover Creek and Surveyor Forest Environmental Education Areas (EEA) receive substantial numbers of local visitors each year.

## **Wild and Scenic Rivers**

The upper Klamath River is designated as a Scenic River in the Wild and Scenic river system. The designated river in the Resource Area, is an 11-mile segment, extending from just below the J.C. Boyle powerhouse to the Oregon-California state line (see Figure 9). This same portion of the river is designated an area of critical environmental concern (see earlier discussion). Wild and Scenic rivers are to be managed to protect their outstandingly remarkable values (ORVs) and to maintain and enhance the natural integrity of river related values. All proposed management actions, or commercial activities, in the Wild and Scenic river corridor, are evaluated by Resource Area specialists to ensure that the ORVs are not degraded. If there are impacts associated with a project, adequate mitigation must be included to maintain or enhance resource values.

The upper Klamath River is quite popular for summer recreation, particularly whitewater rafting, camping, and fishing. In FY 2000 approximately 6,000 people floated the upper Klamath in rafts and kayaks, the majority of them traveled with one of the 23 commercial guides and outfitters permitted by the BLM. BLM recreation staff provided visitor assistance at the Spring Island launch site on every weekend from mid June through mid September. River rangers conducted approximately 13 river patrols by raft to provide visitor assistance, monitor resource conditions, and maintain remote recreation sites along the river.

BLM recreation staff meet periodically with upper Klamath River outfitters and guides, and staff members of the utility company that operates the hydroelectric plants above and below the designated Wild & Scenic segment. In FY 2000, a meeting was held in April, to coordinate management activities, especially the timing, volume, and duration of water releases during the peak rafting season. A post-season meeting is held in November to review how the season went for the outfitters and to discuss the proposed river management plan.

The Resource Area had two unplanned wildfires in the Wild and Scenic river corridor in FY 2000. No prescribed burns were implemented in FY 2000, however a prescribed burn is proposed in FY 2001 on a parcel of land adjacent to the river corridor. Several overhanging hazard trees were removed along the road between J.C. Boyle Dam and the powerhouse due to safety concerns. An oak-woodland thinning project designed to enhance wildlife habitat is also proposed for FY 2001.

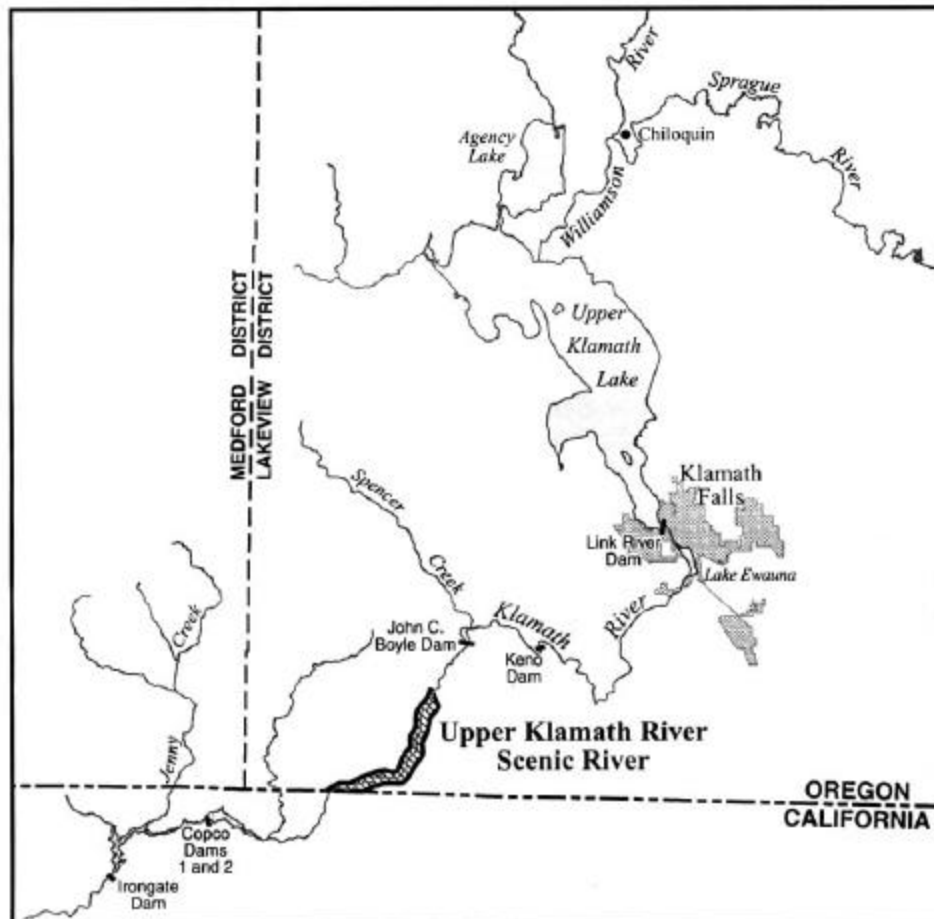
A river management plan EIS was initiated in FY 2000 for the Klamath River in Southern Oregon and Northern California. The plan will address options for managing the outstandingly remarkable values and the ACEC values and is proposed to be completed in FY 2002.

**Figure 8. Upper Klamath River Management Plan Begun, FY 2000**



U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
**Lakeview District**  
**Klamath Falls Resource Area**

**FIGURE 9 - UPPER KLAMATH RIVER SCENIC RIVER MAP**  
2001



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



D04-05-00

## Cultural Resources

The cultural resource program identifies and manages cultural resources on BLM administered lands. This program ensures that the BLM complies with federal and state law governing cultural resources preservation and works with the State Historic Preservation Officer to enhance the management of cultural resources under the BLM's jurisdiction. Primary responsibilities include performing archaeological inventories prior to implementing projects with the potential to impact cultural resources, and consulting with The Klamath Tribes as per Section 106 of the National Historic Preservation Act (NHPA).

Surface inventories were conducted by an in-house crew consisting of a crew lead, one seasonal Archaeological Technician, and three Apprenticeships in Science and Engineering (ASE) students. As a sponsor for the ASE program, the BLM helps high school students find their career paths and gain work experience. In FY 2000 one of the ASE students was a member of The Klamath Tribes. The survey crew covered 3,650 acres and recorded 37 archaeological sites.

An additional 10,000 acres were inventoried under four contracts awarded to private consulting firms for upcoming timber sales, prescription burning, and juniper woodland management projects. These surveys recorded 49 archaeological sites. Table 13 summarizes cultural resources inventory results from fiscal year 1996 through 2000.

Table 13. Cultural Resource Inventory by Fiscal Year		
Year	Acres (BLM Class III)	Sites
1996	8,347	55
1997	9,225	56
1998	6,640	59
1999	8,250	65
2000	13,650	86

**Figure 10. Homesteader's Cabin, Klamath River Canyon**



## Visual Resources

Project proposals within the Klamath Falls Resource Area were reviewed to assure that proposed activities would meet the following visual quality management classes. Project area reviews are listed in Table 14.

<b>Table 14. Visual Resource Management</b>			
<b>Class &amp; Guidance</b>	<b>Total Acres in Class</b>	<b>Project</b>	<b>Project Acres Reviewed</b>
<b>VRM I:</b> Preserve the existing character of landscapes.	0		0
<b>VRM II:</b> Retain the existing character of landscapes.	33,500	Barnes Valley Creek 3-C road crossing	20
		Clover Hookup TS	950
		Riparian Thinning project	100
<b>VRM III:</b> Partially retain the existing character of landscapes.	81,800	Clover Hookup TS	950
		Slim Chicken TS	2,000
		Grenada West TS	1,300
<b>VRM IV:</b> Allow major modifications of existing character of landscapes.	96,700		0

## Rural Interface Areas

Projects planned in rural interface areas have involved extra planning efforts to gather input and inform the residents of those areas about the proposed projects. The resource area has one large (Klamath Forest Estates) and two small (Harpold Dam and Grenada Butte) rural interface areas (RIAs). The area around Stukel Mountain is being considered for an RIA because of increasing population.

The Bly Mountain Timber Sale (Klamath Forest Estates) was sold and awarded in 1999. The purchaser has three years to complete the timber harvest. Timber harvesting did not begin in the summer of FY 2000 as anticipated. The purchaser must complete the sale in the summer of 2001.

The public was notified of proposed prescribed burning activities on Stukel Mountain via news releases to local newspapers, television and radio stations as well as legal notices published in the Herald and News. The prescribed burns planned in FY 99 were not completed in FY 2000 because the Secretary of the Interior placed a moratorium on prescribed burning. The moratorium was in response to the escaped prescribed burns in New Mexico. When the moratorium was lifted, local weather conditions were not suitable for prescribed burning. The Stukel Mountain prescribed burns have been rescheduled for FY 2001.

## Socioeconomic Conditions

Socioeconomic conditions for the Klamath Falls Resource Area are influenced by local, regional and statewide activities. Klamath County exceeded the State of Oregon in job growth between 1998 and 1999. Overall employment grew by 3.4 percent, compared to 1.3 percent statewide. In Klamath County, the services and government sectors showed strong growth, up 7.3 percent and 5.3 percent, respectively. The manufacturing sector showed a slight decline because job losses in the lumber and wood products sector exceeded the gains in other types of manufacturing.

Statewide lumber and wood products employment has continued the downward trend, which began in 1989, decreasing by 1,700 jobs between 1998 and 1999. Total lumber and wood products employment in 1999 averaged 57,300 jobs within Oregon (see Table 15). Klamath County (Table 16) mirrored the statewide trend, losing 160 jobs between 1998 and 1999. Data in Tables 15 and 16 are displayed by calendar year rather than fiscal year.

During April 2000, the Bureau of Census completed its decadal census. It is anticipated that this data will be released beginning April of 2001. Significant opportunities exist to compare the 2000 data to the 1990 data and to examine trends. Where census data was used in developing the Resource Management Plan, opportunities will exist to update information.

The socioeconomic activities and allocations for the resource area are displayed in Table 17.

Payments in Lieu of Taxes and O&C Payments were made in FY 2000 as directed in current legislation. The specific amounts paid to the county under each revenue sharing program in FY 2000 are displayed in Table 18. New legislation (P.L. 106-393, Secure Rural Schools and Community Self-Determination Act of 2000) was signed October 30, 2000, that extends payments through FY 2006. The law establishes a new formula for calculating payments, which is based on selecting the highest three years in the eligibility period (1986-1999). The law also allows for annual increases in the payment based on Consumer Price Index information. O&C Payments in FY 2001 will be based on this new legislation.



**Figure 11. Old Juniper, Gerber Block**

**Table 15. Resident Labor Force, Employment by Industry, Oregon**

	<b>Average 1970-1979</b>	<b>Average 1980-1989</b>	<b>Average 1984-88 Baseline</b>	<b>Average 1990-1994</b>	<b>Average 1995-1998</b>	<b>1999</b>
<b>Civilian Labor Force</b>	864,500	1,295,000	1,362,400	1,555,400	1,715,950	1,760,500
<b>Unemployment</b>	61,700	107,000	104,800	98,600	95,250	100,400
<b>Total Wage and Salary Employees</b>	709,200	1,044,600	1,068,680	1,299,075	1,492,800	1,572,400
<b>Total Manufacturing</b>	172,300	215,100	203,240	213,425	238,700	240,800
<b>Lumber &amp; Wood Products (&amp; Paper)</b>	76,200	79,900	75,060	63,900	60,075	57,300
<b>Other Manufacturing</b>	96,100	135,200	128,180	149,525	178,625	183,500
<b>Total Non-Manufacturing</b>	536,900	829,500	865,440	1,085,625	1,254,125	1,331,600
<b>Construction &amp; Mining</b>	30,800	48,800	35,800	55,900	79,125	84,700
<b>Transportation, Commerce &amp; Utilities</b>	48,700	60,500	58,040	66,650	73,975	77,700
<b>Trade</b>	162,000	255,600	269,680	326,500	370,950	387,900
<b>Finance, Insurance &amp; Real Estate</b>	36,000	70,000	69,360	85,400	92,050	95,400
<b>Services &amp; Miscellaneous</b>	112,700	191,400	231,180	320,050	390,100	425,400
<b>Government</b>	146,700	203,200	201,360	231,175	247,900	260,500



**Table 16. Resident Labor Force, Employment by Industry, Klamath County**

	<b>Average 1970-1979</b>	<b>Average 1980-1989</b>	<b>Average 1984-88 Baseline</b>	<b>Average 1990-1994</b>	<b>Average 1995-1998</b>	<b>1999</b>
<b>Civilian Labor Force</b>	19,310	26,910	25,184	27,088	29,002	28,760
<b>Unemployment</b>	1,350	2,780	2,626	2,624	2,552	2,500
<b>Total Wage and Salary Employees</b>	15,240	20,180	19,072	20,744	22,488	23,300
<b>Total Manufacturing</b>	3,870	4,940	4,464	3,918	3,940	3,900
<b>Lumber &amp; Wood Products</b>	3,460	4,370	3,608	2,960	2,728	2,470
<b>Other Manufacturing</b>	410	570	856	958	1,212	1,430
<b>Total Non-Manufacturing</b>	11,370	15,240	14,608	16,826	18,552	19,410
<b>Construction &amp; Mining</b>	470	620	412	696	1,055	1,030
<b>Transportation, Commerce &amp; Utilities</b>	1,460	1,510	982	962	880	830
<b>Trade</b>	3,290	4,780	4,838	5,168	5,612	5,510
<b>Finance, Insurance &amp; Real Estate</b>	610	810	854	966	975	1,070
<b>Services &amp; Miscellaneous</b>	2,260	3,170	3,244	4,274	5,070	5,580
<b>Government</b>	3,280	4,350	4,286	4,762	4,955	5,400

<b>Table 17. Klamath Falls Resource Management Plan, Summary of Socioeconomic Activities and Allocations</b>		
<b>Program Element</b>	<b>FY 96-99 Average</b>	<b>FY 2000</b>
<b>Resource Area Budget<sup>1</sup></b>	\$3,624,000	\$4,200,000
<b>Timber sale collections O &amp; C<sup>2</sup> lands</b>	\$3,694,000	\$ 786,000
<b>Timber sale collections, PD lands</b>	\$ 261,000	\$ 6,000
<b>Timber sale collections, USFWS lands</b>	\$ 1,000	\$ 00
<b>Recreation Fee Demonstration Project Receipts</b>	\$ 12,500 <sup>3</sup>	\$ 30,500 <sup>3</sup>
<b>Grazing Receipts</b>	\$ 15,300	\$ 15,800
<b>Payments to Klamath County (O&amp;C)</b>	\$1,832,000	\$1,449,500
<b>Payments to Klamath County (PILT)</b>	\$ 220,000	\$ 227,000
<b>Value of forest development contracts</b>	\$ 143,000	\$ 163,000
<b>Value of timber sales – (1) oral auctions and (2) negotiated</b>	(1) \$ 904,000 (2) \$ 25,000	(1) \$ 1,234,000 (2) \$ 455,000
<b>Jobs-in-the-Woods Funds in contracts:</b> Juniper Woodland Treatment Bitterbrush Planting Fuels Reduction and Burning		\$ 160,000 \$ 27,000 \$ 25,000
<b>Pipeline Restoration Funds:</b> Recreation Timber	\$ 129,000 \$ 40,000	\$ 200,000 \$ 231,000
<b>Challenge cost-share project contributions and value-in-kind or volunteer efforts.</b> <b>Wood River</b> <b>Other</b>	\$ 357,000 \$ 54,600	\$ 162,500 \$ 00
<b>Value of land sales</b>	\$ 161,500	\$ 00
<sup>1</sup> Data Source: Oregon State BLM Office records. <sup>2</sup> O&C - Oregon and California Railroad lands PD - Public Domain lands PILT - Payments in Lieu of Taxes <sup>3</sup> Klamath Falls Resource Area was added to the recreation Fee Demonstration Project in FY 98.		

<b>Table 18. Payments To Counties, FY 2000</b>			
<b>County</b>	<b>O&amp;C Payments</b>	<b>CBWR Payments</b>	<b>PILT Payments</b>
<b>Benton</b>	\$1,740,643.87		\$2,144.00
<b>Clackamas</b>	\$3,437,926.51		\$54,924.00
<b>Clatsop</b>	\$0.00		\$0.00
<b>Columbia</b>	\$1,276,059.21		\$0.00
<b>Coos</b>	\$3,654,732.69	\$432,938.33	\$7,127.00
<b>Curry</b>	\$2,260,978.70		\$62,305.00
<b>Douglas</b>	\$15,517,127.77	\$59,596.75	\$99,959.00
<b>Jackson</b>	\$9,706,722.24		\$48,631.00
<b>Josephine</b>	\$7,482,910.32		\$36,922.00
<b>Klamath</b>	\$1,449,504.15		\$226,970.00
<b>Lane</b>	\$9,458,943.75		\$144,360.00
<b>Lincoln</b>	\$223,000.64		\$19,312.00
<b>Linn</b>	\$1,635,338.02		\$50,203.00
<b>Marion</b>	\$904,391.48		\$21,478.00
<b>Multnomah</b>	\$675,196.38		\$7,981.00
<b>Polk</b>	\$1,338,003.83		\$0.00
<b>Tillamook</b>	\$346,889.88		\$9,804.00
<b>Washington</b>	\$390,251.12		\$1,621.00
<b>Yamhill</b>	\$446,001.28		\$2,720.00

## Recreation

Outdoor enthusiasts find a wide variety of recreation opportunities on the public lands managed by the Klamath Falls Field Office. Some of the more popular activities are camping, fishing, sightseeing, whitewater rafting, and birding. The Resource Area manages five campgrounds, a 3,200-acre wetland restoration project, river access points in the upper Klamath River canyon, and a number of dispersed, semi-developed camps. Refer to Table 19 for a list of recreation sites.

<b>Table 19. Summary of Recreation Sites and Use – FY 2000</b>				
<b>Site Name</b>	<b>Size (Acres)</b>	<b>Number of Camp Sites</b>	<b>Primary Recreation Opportunities</b>	<b>FY 2000 Visitor Use</b>
<b>Topsy</b>	12	15	camping, fishing, boating	4000
<b>Gerber</b>	300	50	camping, fishing, boating	6000
<b>Surveyor</b>	10	5	camping, hunting	1000
<b>Wood River Wetland</b>	3200	Day Use Only	hiking, birding, canoeing	5000

The Resource Area issues and administers a number of Special Recreation Permits for activities such as guided white-water rafting, guided hunting and fishing, and mountain bike races (see Figure 12 and Table 20).



**Figure 12. Rafting the gentle portion of the Scenic upper Klamath River**

<b>Table 20. Summary of Special Recreation Permits - FY 2000</b>				
<b>Type of Special Recreation Permit (SPR)</b>	<b>Number of SPRs issued</b>	<b>Number of Visitor Use Days</b>	<b>Number of Race Participants</b>	<b>Permit Fees Collected</b>
<b>Whitewater Rafting (WR)</b>	23	6,000	n/a	\$19,400
<b>WR Photography</b>	2	n/a	n/a	\$160
<b>Guided Fishing and Hunting</b>	2	20	n/a	\$160
<b>Totals</b>	<b>27</b>	<b>6,020</b>	<b>n/a</b>	<b>\$ 19,720</b>

## Recreation Pipeline Restoration Funds

This Congressional funding was appropriated for the completion of backlogged recreation projects in western Oregon, including BLM managed lands in Klamath County. The intent of this funding is to do facility or site backlog maintenance at existing recreation sites. New construction of recreation projects that address critical visitor safety or recreation management needs are also prioritized. During FY 2000, the third year of this funding, the Klamath Falls Resource Area contracted for approximately \$250,000 for various recreation projects including:

1. At Gerber Reservoir, completing the construction contract for replacement of electric and water lines, new fish cleaning stations and landscaping the affected area.
2. Survey and design work for renovation of the Stateline Recreation Site in the Upper Klamath River canyon and the North Gerber campground area. Installed additional vehicle barriers.

## Recreation Projects Completed, and Proposed Projects

### Gerber Reservoir

#### FY 2000 Projects Completed

1. The construction contract for the electric and water lines was completed at the end of the fiscal year.
2. New handicap accessible drinking fountains installed.
3. Replaced the old fish cleaning stations with new units that process and hold the fish waste on site.
4. Replaced the camp host RV holding tank
5. Graded, widened and rocked Barnes Valley Boat ramp road, designed to reduce runoff into Gerber reservoir.

#### FY 2001 Projects Planned

A number of recreation projects using pipeline funds are scheduled for completion in FY 01.

1. Reshaping and maintenance of roads and campsites.
2. Chip seal existing camp roads, campsites and parking areas.
3. Replace a number of damaged or worn picnic tables and vehicle barriers.
4. Do planning and design work for remodeling of the North campground, day-use area.
5. Replace five failing outhouses with new handicap accessible vault toilets at various outlying campsites.
6. Install new handicap toilet at Barnes Valley Boat ramp.
7. Construct buck and pole fence for managing livestock within campground area.

## **Wood River Wetland**

### **FY 2000 Projects completed**

1. Ongoing planning and design for the second phase of the interpretive display project.
2. Constructed a boarding float and steps for the carry-down boat launch at the site entrance.
3. Continue planning and design for a gathering and staging area for environmental education activities and group presentations.
4. Constructed a storage shed for maintenance activities.

### **FY 2001 Projects Planned**

1. Complete design for the second phase of the interpretive display project
2. Complete planning and design for a gathering and staging area for environmental education activities and wetland presentations.
3. Begin construction of gathering and staging area.

The work at Wood River Wetland will be partially funded with grants received from the US Fish and Wildlife Service and the State of Oregon's Watershed Enhancement Board.

## **Upper Klamath River**

### **FY 2000 Projects Completed**

1. The Stateline Recreation Site survey and design was completed.

### **FY 2001 Projects Planned**

1. Begin construction work to renovate the Stateline Recreation Site. Work to initially include road renovation and rocking, and replacement vault toilets.

## **Topsy Recreation Site**

### **FY 2000 Projects Completed**

1. Added two day-use sites with BBQ grills.
2. Repaired the RV dump station
3. Hazard tree trimming throughout the entire recreation site
4. Volunteers contributed approximately 1,000 hours of labor for campground maintenance and construction projects, and while serving as camp hosts.
5. Park ranger and volunteer camp hosts were assigned to Topsy to assist visitors, manage use, and maintain the recreation site.

### **FY 2001 Projects Planned**

1. Install boat ramp area lighting;
2. Install a rinse shower for swimmers.

## **Recreation Fee Demonstration Project**

Prior to 1998, all recreation fees were combined with other revenue sources from public O&C lands and allocated between the U.S. Department of the Interior and the O&C counties. Recreation facilities were wholly dependent on the funding provided through the Congressional appropriations process for operations and maintenance funding.

In March of 1998, The Klamath Falls Resource Area was added to the BLM-wide Recreation Fee Demonstration pilot program. This program allows the resource area to retain collected recreation fees to be used for maintenance of recreation sites and areas from which they were collected. A special account has been established for each recreation site and program.

The Association of O&C Counties supported the retention of all recreation fee revenues under the Fee Demonstration Pilot authority to help operate the BLM's recreation facilities and programs.

In FY 2000, a total of \$30,500 of fees were collected at the three participating recreation sites. The revenue from the Recreation Fee Demonstration program is used to fund a number of minor maintenance projects and for other

costs associated with the recreation program. Fees generated from these sites and applied to the Fee-Demo program are shown in the Table 21. Revenues collected in FY 2000 are used to pay for projects in FY 2001.

<b>Table 21. Recreation Fee Demonstration Program, Fee Collection and Expenditure</b>		
<b>Recreation Site</b>	<b>FY 2000 Fees Collected - \$</b>	<b>FY 2000 - Monies Obligated from Fee Accounts - \$</b>
<b>Account Balance, FY00 (carryover from FY 99)</b>	\$ 1,600	\$0
<b>Topsy Recreation Site</b>	\$ 3,350	\$ 3,200
<b>Gerber Recreation Site</b>	\$ 7,450	\$ 3,000
<b>Special Recreation Permits - Upper Klamath River</b>	\$19,700	\$ 9,600
<b>Total</b>	<b>\$32,100</b>	<b>\$15,800</b>

Fee Demonstration funds were used to pay wages for two seasonal park rangers assigned to Topsy Recreation Site and the upper Klamath Wild & Scenic River. Other funds were used to rent construction and maintenance equipment, to pay for toilet and dumpster rentals and service, to fund expenses for campground hosts and other volunteers, and to purchase construction and maintenance supplies.

## Status of Recreation Plans

- Pacific Crest National Scenic Trail Special Recreation Management Area (SRMA) - Recreation Area Management Plan to be coordinated by Medford District. Completed August of 1998.
- Klamath River SRMA Recreation Area. Management Plan to be evaluated, updated and incorporated into the Klamath River Management Plan - A draft river plan/environmental impact statement is scheduled to be released in Fall 2001.
- Klamath River Scenic Waterway Plan - A memorandum of understanding has been signed by the Oregon State Parks Department for joint management of the Wild and Scenic River/State Scenic Waterway. A separate section of the Klamath River Management Plan will address State Scenic Waterway issues.
- Hamaker Mountain SRMA - An analysis of recreation issues and projects was completed during the Topsy/Pokegema Landscape Analysis, July 1996 (OR #014-98-01). Further project planning is ongoing for future recreation project developments. Project implementation contingent upon adequate funding.
- Stukel Mountain SRMA - No recreation planning or watershed analysis has occurred. However, a local county advisory group (Stukel Road Task Force) completed a preliminary assessment of recreation issues in FY99. This information will be incorporated into future planning and project implementation. Project implementation is contingent upon adequate funding.
- Wood River Wetland SRMA- Completed Resource Management Plan July 1995. Project implementation is ongoing.
- Site-specific planning for ongoing recreation pipeline restoration funding projects is ongoing at several facilities, including Gerber North campground, Stateline Recreation Site and Wood River Wetland.

## Volunteer Activities

Volunteers contributed approximately 7,200 hours of time and labor in FY 2000 to nearly every resource program in the Klamath Falls Resource Area (see Table 22). Volunteers continue to provide substantial assistance to the recreation, wildlife, and cultural resource programs. Volunteer positions vary widely, from campground hosting and park maintenance, to monitoring wildlife in the winter. In FY 2000, approximately 100 individuals (including 5 campground hosts) participated. A group of Agency Lake area volunteers known as "The Usual Suspects" has adopted Wood River Wetland for maintaining the recreation facilities and area landscaping. For FY 2001, the

Native American Student Union at Oregon Institute of Technology, will be assisting the BLM with Wood River Wetland recreation use monitoring. In September 2000, the Klamath Falls Resource Area held its first Public Lands Day event. This nationally sponsored event, was held at Gerber Reservoir, where approximately 20 volunteers planted trees and shrubs, built buck and pole fence, and picked up roadside litter.

**Table 22. Fiscal Year 2000 Volunteer Statistics**

Group	Hours volunteered	Value of work
All groups excluding hosts	4,300	\$ 60,000
Campground hosts	2,900	\$ 40,000
All groups total:	7,200	\$100,000

## Wilderness

There is one Wilderness Study Area (WSA) in the Klamath Falls Resource Area, the Mountain Lakes WSA. There are 334 acres within the WSA boundary. The WSA borders the eastside of the Mountain Lakes Wilderness Area. The WSA is managed under the interim wilderness management policy to protect its wilderness values. Interim protection measures include routine patrols, monitoring and restriction of vehicles to existing roadways.

## Tourism

The BLM is a member of the *Klamath/Lake/Modoc/Siskiyou Outdoor Recreation Working Group*, a consortium of government and private recreation and tourism entities from several counties within Oregon and California. The working group continues an active role in promoting tourism by providing pamphlets and brochures that show scenic byway travel routes, towns and cities, and areas of interest to visitors. The BLM participates in *The Answer People Group*, an informal informational sharing group for front line public contact representatives from public service and private tourism related businesses.

## Rangeland Management

### Overview

The rangeland management program administers livestock grazing activities on most of the lands in the Klamath Falls Resource Area (approximately 208,000 of the KFRA's 215,500 acres). Grazing licenses are issued yearly, authorizing up to approximately 13,000 Animals Unit Months (AUMs) on 96 individual grazing allotments. A percentage of the grazing fees (37 ½%) goes to the U.S. treasury. The remainder of the fees are returned to the district and resource area for rangeland improvement projects to benefit wildlife and watershed resources while enhancing livestock grazing systems.

Existing projects such as water holes, spring developments, and fences are monitored and maintained, as necessary, either by range staff personnel or by the grazing users. Grazing use supervision is constantly performed during the grazing season to ensure compliance with approved grazing authorizations, with the efforts concentrated on resource priority allotments. The range program also collects vegetation inventory data, rangeland condition and trend information, actual livestock use information, and monitors vegetation utilization levels on high priority allotments. This information is evaluated - both formally and informally - to determine whether allotment goals and objectives are being met. Monitoring data is being utilized in an ongoing effort to assess our efforts to meet the Standards for Rangeland Health on all grazing lands.



As required by BLM policy, a Range Program Summary (RPS) is published periodically to update the public on implementation of the RMP. This summary typically includes information on the season-of-use and forage allocation by allotment. Since the original RPS, which was included as part of the June 1995 Klamath Falls Resource Area RMP/Record of Decision (Appendix H), there have not been enough significant changes in the range program to warrant publishing a full, independent update (i.e. recounting all of the information for all of the KFRA grazing allotments). As the resource area allotments are assessed (see next section) and other changes in grazing management take place, the public will be updated via this Annual Program Summary and Monitoring Report for the KFRA. The APS will fulfill the requirement for the RPS.

**Figure 13. Calf on grazing allotment in Gerber Block**



## **Fiscal Year 2000 Summary**

### **Rangeland Health Standards Assessments**

Nine grazing allotments were assessed/evaluated in 2000 to determine if the Standards for Rangeland Health were being met. Two of these assessments were Willow Valley and Bear Valley - both in the Gerber Block. The remainder of the assessments were on the KFRA's "westside" and included the following allotments: Edge Creek, Wood River, Buck Mountain, Grubb Springs, Buck Lake, Johnson Prairie, and Long Lake. The FY 2000 allotments contain a total of 57,338 acres or 28% of the total KFRA acres. The total acreage of the assessments completed to date (FY 1999 & 2000) is 103,142 acres, or 50% of the KFRA allotted acres. Four other allotment assessments (Dixie, Chase Mountain, Dry Lake, and Chicken Hills - all on the "westside") were substantially completed and will be finalized by mid FY 2001.

Rangeland Health Standards Assessments compare accumulated rangeland monitoring data against the five Standards for Rangeland Health. These standards address watershed function in uplands; watershed function in riparian areas; ecological processes; water quality; and native, threatened and endangered, and locally important species. These assessments also compare the rangeland monitoring data against other pertinent objectives (i.e. land use plan, section 7 consultations, etc.) to see if current grazing use is meeting them. On November 13, 1998, the Klamath Provincial Advisory Committee (PAC) approved the KFRA Plan for the Implementation of Standards and Guidelines. The KFRA Plan is the local plan to implement the policies and guidance stemming from the broad direction contained in the August 12, 1997 "Standards for Rangeland Health - Oregon/Washington Standards and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington". The entire assessment process for the resource area, in accordance with BLM policy, is scheduled to take place over 10 years (1999-2008). In the case of the nine allotments assessed in FY 2000, current grazing management was found to be fully satisfactory and in balance with landscape capabilities. (Note: These assessments only assess grazing management, not other uses of the public lands.)

### **Endangered Species Act Section 7 Consultation**

In addition to the assessments noted above, three grazing allotments in the Gerber Reservoir area (Horsefly, Pitchlog, and Dry Prairie), which are subject to formal consultation under section 7 of the Endangered Species Act,

were re-evaluated and re-consulted on in FY 99, with an update completed in FY 2000. The existing Biological Opinion (BO) covering these allotments expired after the 1998 grazing season and was in need of renewal. On April 6, 1999 the USFWS issued a memorandum (1-10-99-I-47) that indefinitely extended the existing BO, with some very minor modification primarily dealing with monitoring requirements. The BO was reaffirmed for the 2000 grazing year by USFWS memorandum (1-10-00-TA-60). An end-of-year grazing report for the 2000 grazing season was prepared for these allotments, in response to a USFWS Biological Opinion, and submitted in to the USFWS during early FY 2001 as required by the BO.

### **Grazing Leases and Fees**

Seven grazing permits/leases were renewed or transferred during FY 2000. This process included appropriate NEPA review/documentation.

Seventy (70) billings were issued authorizing approximately 12,250 AUMs in grazing use and collecting approximately \$16,500 in grazing fees.

### **Range Improvements**

#### **Casebeer Fence Construction**

Approximately 1 mile of fencing was completed on the private land/BLM boundary east and south of Casebeer Creek. This creek is located just east of Gerber Reservoir. The fencing protects the creek on private lands from publicly licensed grazing use and was a cooperative effort with the private landowner.

#### **Riparian Fence Maintenance**

Range staff personnel continued to maintain all riparian enclosure and pasture fencing. This included the inspection and repair of approximately 25-30 miles of riparian related fencing within the resource area.

### **Monitoring of Grazing Allotments**

Monitoring of grazing use, and effects of that use, continued on priority allotments in accordance with the KFRA's *Coordinated Monitoring and Evaluation Plan for Grazing Allotments*. At least 20 high priority allotments had various monitoring data collected on them. These rangeland studies monitor utilization, ecological condition, trend, actual grazing use, and/or other resource attributes. As is typical of all grazing years, at least 100 grazing use supervision checks of high priority allotments were performed.

## **Fiscal Years 1996-1999 Summary**

### **Rangeland Ecological Site Inventory**

Ecological Site Inventory (ESI): ESI field work was completed for the entire Gerber Block (eastside of the resource area). Approximately 110,000 acres were field inventoried during FY97 and FY98. ESI, the BLM's rangeland vegetation survey method, allows for classification and comparison of the current vegetation to its potential. ESI also includes an Order 3 soil survey. ESI inventories provide the Bureau information that assists in setting proper, achievable objectives for resource management. Soil mapping was done by a soil scientist from the BLM's Lakeview District ESI crew; and vegetation mapping was done by resource area range management specialists.

### **Monitoring of Grazing Allotments**

Allotment monitoring evaluations were completed for all of the allotments within the westside of the KFRA as part two watershed analysis processes: "Spencer Creek Pilot Watershed Analysis" (August 1995) and "Topsy/Pokegama Landscape Analysis" (July 1996).

Rangeland monitoring studies were completed during FY96-99 in accordance with KFRA's *Coordinated Monitoring and Evaluation Plan for Grazing Allotments*. This directs the most monitoring emphasis on high priority (management category "I") allotments; in particular the 3 previously mentioned allotments that are under Section 7 Consultation. This includes various rangeland condition, trend, and utilization studies; riparian condition and photo trend studies; actual grazing use supervision and information; and other rangeland monitoring studies as needed.

## **Four Mile Grazing Environmental Assessment**

Four Mile Grazing EA: An environmental assessment (EA#OR-014-96-3) analyzing the grazing use of 1,200 acres in the Four Mile area, as well as its potential impacts, was completed and distributed for public review in April 1998. (Four Mile consists of Bureau of Reclamation lands located northwest of Agency Lake that are administered by the BLM.) A proposed grazing decision selecting the proposed action (Alternative A - light, rotational grazing) was issued on September 25, 1998 and sent to all identified interested publics. The grazing decision was subsequently protested by the Oregon Natural Resources Council. In addition, the U.S. Fish and Wildlife Service has expressed concerns about grazing the property relative to potential impacts on basin water quality and listed species. Due to these concerns, the proposed grazing decision was cancelled and the BLM is pursuing "Area of Critical Environmental Concern" (ACEC) designation for the property. A neighboring landowner - and applicant for the grazing on the property - protested the cancellation of the proposed decision; the validity of this protest is currently pending a ruling from an Administrative Law Judge.

For more information on FY 1996-1999 accomplishments, please refer to the October 1997 *Lakeview District Planning Update for the Lakeview and Klamath Falls Resource Area*, the February 1999 *Fiscal Year 1998 Annual Program Summary & Monitoring Report for the Klamath Falls Resource Area*, and the July 2000 *Klamath Falls Resource Area - Annual Program Summary*.

## **Wild Horse Management**

The Klamath Falls Resource Area has one designated wild horse herd and herd management area, the Pokegama Herd Management Area (HMA). This HMA is located in the western portion of the resource area, west and north of the Klamath River Canyon, south of Highway 66, and east of Jenny Creek, overlapping the border between California and Oregon.

Based on aerial and ground counts of the wild horse herd made during FY 2000, the herd size was 55 horses. This herd size is above the upper end of the Appropriate Management Level (AML) of 30-50 animals. This AML was initially established in the Klamath Falls Resource Area RMP (June 1995) and has been evaluated and re-affirmed in the Lakeview District Wild Horse Gather EA (OR-010-95-10) and again in the 1996 Topsy/Pokegama Landscape Analysis.

In 1996, 20 head of horses were removed from the HMA and adopted to the public via the BLM's Adopt-a-Horse program. No removals were done in FY97, FY98, or FY99. Since the herd was above AML in FY 2000, a total of 18 horses were removed. These horses were transported to the Burns Wild Horse corrals and placed in the Adopt-a-Horse program. This brings the population of the Pokegama Herd to 37 horses.

**Figure 14. Horse from Pokegama Herd**



A major portion of the KFRA's wild horse program consists of performing compliance checks of wild horses and burros adopted by residents of Klamath County. Compliance checks of adopted horses and their maintenance facilities is required to assure that adopters properly execute their responsibilities as required by the Private Maintenance and Care Agreement that adopters sign when adopting an animal. Adopters are eligible to receive title to the animal after one year of appropriate care. In FY 2000, the KFRA completed on-site inspection of 16 horses/burros - 100% of the recently adopted and untitled animals. In FY99, 21 horses/burros were inspected; in FY98, 22 horses/burros were inspected; and in FY97, 8 horses/burros were inspected for compliance.

The KFRA sponsored a wild horse adoption in May of 1999, in conjunction with the Horse Packing and Wilderness Skills Clinic at the Klamath County Fairgrounds. Twenty-one horses were adopted out at that event. On May 6, 2001, Klamath Falls will host another BLM satellite adoption during the Packing Clinic held at the Klamath County Fairgrounds. There will be approximately 30 horses at this event.

Starting in 1999, the Klamath Falls Resource Area teamed up with the local 4H & FFA equestrian clubs to promote wild horse awareness and education, and to provide scholarships for deserving young students. In 1999, a 3-year-old filly was green broke and the Klamath Falls 4H/FFA members sold raffle tickets to people who qualified for horse adoption. "Goldie" now has a great home, and the local winner loves her new horse. The raffle generated \$1600 in donations for a scholarship fund for eligible equestrian members. For the year 2000, a green broke 2-year-old gelding named "Wiley" was adopted through the raffle. Equestrian members sold tickets and raised \$1400 towards the scholarship fund, and again the horse has a great new family.

## **Forest Management and Timber Resources**

The Klamath Falls Resource Area manages approximately 215,000 acres of land located in Klamath County. Approximately 51,230 acres lies west of Klamath Falls and is within the Northwest Forest Plan area. Approximately 23,550 acres (50%) of the commercial forest land on the westside is available for timber harvest. On the eastside, there are approximately 16,200 acres of commercial forest land of which approximately 8,800 acres (50%) are available for harvest. The Klamath Falls Resource Management Plan provides for a sustainable timber harvest, known as the Allowable Sale Quantity (ASQ), from the Klamath Falls Resource Area. On the westside, the ASQ is 5.91 MMBF (million board feet) annually. On the eastside, the ASQ is 0.40 MMBF.

## **Silvicultural Prescriptions**

To meet the ASQ commitment, the Klamath Falls Resource Area to date has primarily used two types of treatments or prescriptions: Density Management and Mortality Salvage. In FY 2000, the KFRA also started implementing a third type of silvicultural prescription: Regeneration Harvest.

### **Density Management**

Density Management treatments are designed to improve or maintain forest health and are proactive efforts to improve stand resiliency by reducing stand densities and fuel loads. Density Management prescriptions includes thinning from below to reduce competition to under-represented species as well as to improve the resiliency of the large-tree component. Approximately 20-30% of the trees are generally removed under a Density Management prescription. Small (five acres or less) patch cuts are included as part of the Density Management treatment. These are used in areas to regenerate the less shade-tolerant and under-represented species (pines and Douglas-fir). Excess trees of sub-merchantable size are sometimes cut and removed concurrently, and logging slash is treated or removed, which significantly reduces wildfire hazard and prepares the site for prescribed burning. In fiscal year 2000, the KFRA sold approximately 7.2 MMBF of timber on 2,780 acres where Density Management prescriptions were applied.

### **Regeneration Harvests**

Regeneration Harvests were implemented on 39 acres in FY 2000. Per KFRA RMP guidelines, an average of 16-25 large green trees per acre are required to be left in Regeneration Harvest units. This prescription is primarily used in older stands, in decadent stands, and in stands where there is a need to initiate and/or enhance the development of seedlings and saplings in the understory while still maintaining an overstory.

## **Mortality Salvage**

The other type of harvest prescription, Mortality Salvage, is primarily designed to remove scattered dead and dying trees. As a result of continuing local insect infestations and high winds in localized areas, the Klamath Falls Resource Area has been able to meet part of the ASQ by offering and negotiating salvage sales to capture the scattered mortality. Generally, the impacts are minimal unless the blowdown or infestation patch is large and concentrated. In fiscal year 2000, the Klamath Falls Resource Area sold through modifications to active timber sales approximately 2.1 MMBF of mortality salvage volume on the westside. No eastside timber sales were sold in FY 2000.

## **Timber Sale Planning**

The timber sale process including the planning, watershed analysis, environmental analysis, consultation, and the biological and cultural surveys is a two to four year process. The public is given the opportunity to comment on the proposal during the planning and scoping phase. Notices occur in the newspaper requesting comments during both the watershed analysis and environmental analysis period. In addition, public tours are announced. Once the layout, cruising, and appraisal is completed and the contract is prepared, the timber sale is ready to be offered and a final decision will appear in the local newspaper, stating when the sale will be auctioned. The tables below summarize the following:

Table 23	Timber Sale volume and acres committed for harvested since June of 1995
Table 24	Timber Volume Sold in fiscal year 2000
Table 25	Harvest Activity for FY 1996-2000
Table 26	Timber sale planned for fiscal year 2001 & 2002
Table 27	Status of all sold and awarded sales since signing of the RMP
Table 28	A list of Environmental Assessments and Watershed Analyses applicable to the different sales

## **Cumulative Status of Klamath Falls Timber Sale Volume and Acres**

Below is a summary by land use allocation of the timber volume and acreage that has been harvested in the KFRA since the signing of the RMP on June 2, 1995. The volume and acres are summarized by year, harvest method, land allocation, RMP/EIS assumed average, and percent of assumed average. Departures between actual treatments and assumed averages are discussed in the monitoring section. All KFRA westside lands are in the Southern General Forest Management Area (SGFMA), which is described in the Northwest Forest Plan.

**Figure 15. Delimber Working on a Westside Timber Sale**



**Table 23. Klamath Falls Resource Area Timber Sale Volume and Acres**

Entire Resource Area										
Volume million board feet (MMBF)										
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	1995- 2000 Total	1995-2000 Annual Average	1995-2000 Average of RMP/EIS ASQ***	Percent of Average ASQ
Total Timber Sale Program	4.25	7.25	6.67	5.93	3.60	9.46	37.15	6.97	n/a	
Total Matrix Timber Sales	4.131	7.162	6.624	5.882	3.546	9.25	36.60	6.87	6.31	109%
Total All Reserves	0.119	0.09	0.04	0	0.05	0.18	0.49	0.09	n/a	
Total AMA Timber Sales	n/a	n/a	n/a	n/a	n/a	0.00	0.00	0.00	n/a	
Total Key Watersheds	3.12	6.99	6.09	2.58	2.37	4.70	25.85	4.85	3.25	149%
Total Regeneration Harvest	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.03	0.87	3%
Total Density Management*	3.13	4.01	1.80	5.44	1.06	7.36	22.80	4.28	5.46	78%
Total Mortality Salvage	0.99	3.15	4.78	0.45	2.49	1.92	13.77	2.58	n/a	258%
Total Small Sales	0.00	0.00	0.04	0.00	0.00	0.02	0.07	0.01	n/a	
Total R/W Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	
Total UMLSR	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	n/a	
Total Density Management Riparian Reserves	0.06	0.08	0.02	0.04	0.05	0.05	0.31	0.06	n/a	
Total Admin Withdrawal	0.1	0.00	0.00	0.00	0.00	0.03	0.1	0.02	n/a	
Acres										
Total Timber Sale Program	1859	2459	3761	1926	906	3089	14000	2627	n/a	
Total Matrix Timber Sales	1793	2440	3759	1919	866	3035	13812	2591	1261	206%
Total All Reserves	66	19	2	7	40	54	188	35	n/a	
Total Key Watersheds	793	2440	3550	440	210	1214	8647	1622	n/a	
Total Regeneration Harvest	0	0	0	0	0	39	39	7	131	6%
Total Density Management	793	440	209	1869	606	2780	6697	1256	1097	115%
Total Mortality Salvage	1000	2000	3550	50	260	270	7130	1338	n/a	
Total Small Sales	0	0	0	0	0	0	0	0	n/a	
Total R/W Clearing	2	0	0	0	0	0	2	0	n/a	
Total UMLSR	0	0	2	0	0	0	2	0	n/a	
Total Density Management Riparian Reserves	36	19	0	7	40	34	136	26	n/a	
Total Admin Withdrawals	30	0	0	0	0	20	50	9	n/a	
* Density Management - All partial harvests, except salvage, including commercial thinning and selective cutting in Matrix and Riparian Reserves. ** 1995-2000 Annual Average - Since the RMP was approved in June of 1995, and implementation did not begin until the final 1/3 of FY95, the annual average is calculated by full fiscal years for 1996-2000 and 1/3 fiscal year for 1995 *** ASQ = Allowable Sale Quantity based on RMP from lands allocated to planned, sustainable harvest.										

**Table 23 (Continued). Klamath Falls Resource Area Timber Sale Volume and Acres****Westside****Timber Sale Volume in million board feet (MMBF)**

	<b>FY 1995</b>	<b>FY 1996</b>	<b>FY 1997</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>1995- 2000 Total</b>	<b>1995-2000 Annual Average **</b>	<b>1995-2000 Average of RMP/EIS ASQ***</b>	<b>Percent of Average ASQ</b>
Total Timber Sale Program	3.239	7.075	6.172	5.864	2.417	9.329	34.096	6.40	n/a	
Total Matrix Timber Sales	3.12	6.99	6.13	5.822	2.417	9.252	33.731	6.33	5.910	107%
Total All Reserves	0.119	0.09	0.04	0.04	0	0.076	0.365	0.07	n/a	
Total AMA Timber Sales	n/a	n/a	n/a	n/a	n/a	0.0	0	0.00	n/a	
Total Key Watersheds	3.116	6.990	6.087	2.576	2.374	4.702	25.845	4.85	3.253	149%
Total Regeneration Harvest	0	0	0	0	0	0.153	0.153	0.03	0.808	4%
Total Density Management*	3.112	3.990	1.311	5.374	0	7.255	21.042	3.95	5.102	77%
Total Mortality Salvage	0	3.0	4.776	0.448	2.417	1.921	12.562	2.36	n/a	
Total Small Sales	0.004	0	0.043	0	0	0.023	0.07	0.01	n/a	
Total R/W Clearing	0.004	0	0	0	0	0	0	0.00	n/a	
Total UMLSR	0	0	0.022	0	0	0	0.022	0.00	n/a	
Density Management Riparian Reserves	0.064	0.083	0.021	0.042	0	0.048	0.258	0.05	n/a	
Total Admin Withdrawal	0.055	0.002	0	0	0	0.028	0.085	0.02	n/a	

**Timber Sale Acres**

Total Timber Sale Program	859	2459	3552	1896	240	3089	12095	2269	n/a	
Total Matrix Timber Sales	793	2440	3550	1889	240	3035	11947	2241	959	234%
Total All Reserves	66	19	2	7	0	54	148	28	n/a	
Total Key Watersheds	793	2440	3550	440	210	1214	8647	1622	n/a	
Total Regeneration Harvest	0	0	0	0	0	39	39	7	131	6%
Total Density Management	793	440	0	1839	0	2780	5852	1098	828	133%
Total Mortality Salvage	0	2000	3550	50	240	270	6110	1146	n/a	
Total Small Sales	0	0	0	0	0	0	0	0	n/a	
Total R/W Clearing	2	0	0	0	0	0	2	0	n/a	
Total UMLSR	0	0	2	0	0	0	2	0	n/a	
Total Density Management Riparian Reserves	36	19	0	7	0	34	96	18	n/a	
Total Admin Withdrawals	30	0	0	0	0	20	50	9	n/a	

\* Density Management - All partial harvests, except salvage, including commercial thinning and selective cutting in Matrix and Riparian Reserves.

\*\* 1995-2000 Annual Average - Since the RMP was approved in June of 1995, and implementation did not begin until the final 1/3 of FY95, the annual average is calculated by full fiscal years for 1996-2000 and 1/3 fiscal year for 1995

\*\*\* ASQ = Allowable Sale Quantity based on RMP from lands allocated to planned, sustainable harvest.

**Table 23 (Continued). Klamath Falls Resource Area Timber Sale Volume and Acres**

Eastside										
Volume million board feet (MMBF)										
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	1995- 2000 Total	1995-2000 Annual Average**	1995-2000 Average of RMP/EIS ASQ***	Percent of Average ASQ
Total Timber Sale Program	1.011	0.172	0.494	0.061	1.182	0.107	3.027	0.57	n/a	
Total Matrix Timber Sales	1.011	0.172	0.494	0.06	1.129	0	2.867	0.54	0.400	134%
Total All Reserves	0	0	0	0	0.05	0.107	0.16	0.03	n/a	
Total AMA Timber Sales	n/a	n/a	n/a	n/a	n/a	n/a	0	0.00	n/a	
Total Key Watersheds	n/a	n/a	n/a	n/a	n/a	0	0	0.00	n/a	
Total Regeneration Harvest	0	0	0	0	0	0	0	0.00	0.057	0%
Total Density Management*	0.021	0.022	0.491	0.061	1.058	0.107	1.76	0.33	0.356	93%
Total Mortality Salvage	0.990	0.150	0	0	0.071	0	1.211	0.23	n/a	
Total Small Sales	0	0	0.004	0	0	0	0.004	0.00	n/a	
Total R/W Clearing	0	0	0	0	0	0	0	0.00	n/a	
Total UMLSR	0	0	0	0	0	0	0	0.00	n/a	
Total Density Management Riparian Reserves	0	0	0	0	0.053	0	0.053	0.01	n/a	
Total Admin Withdrawal	0	0	0	0	0	0	0	0.00	n/a	
Acres										
Total Timber Sale Program	1000	0	209	30	666	0	1905	357	n/a	
Total Matrix Timber Sales	1000	0	209	30	626	0	1865	350	302	116%
Total All Reserves	0	0	0	0	40	0	40	8	n/a	
Total Key Watersheds	n/a	n/a	n/a	n/a	n/a	0	0	0	n/a	
Total Regeneration Harvest	0	0	0	0	0	0	0	0	n/a	
Total Density Management	0	0	209	30	606	0	845	159	269	59%
Total Mortality Salvage	1000	0	0	0	20	0	1020	191	n/a	
Total Small Sales	0	0	0	0	0	0	0	0	n/a	
Total R/W Clearing	0	0	0	0	0	0	0	0	n/a	
Total UMLSR	0	0	0	0	0	0	0	0	n/a	
Total Density Management Riparian Reserves	0	0	0	0	40	0	40	8	n/a	
Total Admin Withdrawals	0	0	0	0	0	0	0	0	n/a	
* Density Management - All partial harvests, except salvage, including commercial thinning and selective cutting in Matrix and Riparian Reserves. ** 1995-2000 Annual Average - Since the RMP was approved in June of 1995, and implementation did not begin until the final 1/3 of FY95, the annual average is calculated by full fiscal years for 1996-2000 and 1/3 fiscal year for 1995 *** ASQ = Allowable Sale Quantity based on RMP from lands allocated to planned, sustainable harvest.										



## **FY 2000 Timber Sales Accomplishments**

### **Timber Sold in FY 2000**

The Klamath Falls Resource Area sold approximately 9.5 MMBF of timber from about 3,089 acres in FY 2000 (Table 24). The total sale price of this timber was valued at approximately \$1,688,889. Approximately 7.3 MMBF (2,817 Acres) (\$1,233,632.00) of this total was in the Muddy Tom and Clover Hookup Timber Sales and the remaining was modification volume that was added to existing salvage sales. To compensate for the short fall in ASQ volume sold in FY 99, the amount of volume sold in FY 2000 was higher than the ASQ specified in the KFRA RMP. The shortfall in the westside ASQ in FY 1999 was due to a court ruling in 1999 which found BLM to be procedurally out of compliance with two survey and management requirements and resulted in a temporary injunction until BLM complied.

<b>Table 24. Timber Volume Sold in FY 2000 in Klamath Falls Resource Area</b>			
<b>Name</b>	<b>Acres</b>	<b>Volume (MMBF)</b>	<b>Value</b>
Muddy Tom	1,873	4.565	\$884,658
Clover Hookup	944	2.782	\$348,974
Modifications/Small Sales	272	2.111	\$455,258
<b>Totals (BLM)</b>	<b>3089</b>	<b>9.458</b>	<b>\$1,688,889</b>

### **Harvest Activity in FY 2000**

During FY 2000, harvest activity occurred on six sales (Table 25). Approximately 4.8 MMBF of timber valued at approximately \$792,427 was removed from these sales.

<b>Table 25. Harvest Activity for FY 1996 - 2000</b>				
<b>Timber Contract No.</b>	<b>Sale Name</b>	<b>Harvest Acres</b>	<b>Volume (MMBF)</b>	<b>Value</b>
<b>97-1</b>	Lower Spencer Salvage	250	1.169	\$298,236
<b>97-2</b>	West Rome II	0	0.626	\$163,046
<b>98-4</b>	STH Salvage	20	0.028	\$6,287
<b>98-2</b>	Kakapo Stew	95	0.722	\$152,433
<b>98-3</b>	Grenada East	983	2.193	\$165,632
<b>99-1</b>	Muddy Tom	20	0.038	\$6,793
<b>Total</b>		<b>1368</b>	<b>4.776</b>	<b>\$792,427</b>
<i>Data Source: Timber Sale Information System (TSIS)</i>				

### **FY 2001 Timber Sales Planned**

The annual timber sale plan (Table 26) may be changed, altered, or amended by the authorized officer. None of the proposed sales are set-asides.

### Eastside

A small eastside timber sale is planned for FY 2001: Whiteline Reservoir. Approximately 200 acres are within the sale area and approximately 200 MBF is scheduled for harvesting.

### Westside

One westside sale is scheduled to be sold in fiscal year 2001: Slim Chicken. Watershed analyses have been prepared in the respective watersheds and environmental assessments have been prepared for the sale. In addition, the Klamath Falls Resource Area is in the process of planning some potential treatments in the Surveyor Mtn. area. Depending upon winter storms, the KFRA may have a small salvage sale in the Surveyor Mtn. area as well. An environmental assessment is being prepared for the Upper Spencer Creek / Surveyor Analysis Area. A notice in the newspaper will be published requesting public comments.

**Table 26. Planned Timber Sales (FY 2001 & 2002)**

FY	Sale Name	Location	W/E*	Sale Date	Vol (MMBF)	Acres	Harvest Prescription#
01	Slim Chicken.	T.40S.,R.7E., 19,21,29,31.	W	Aug. or Sept. 2001	3,600	1,800	DM/UR
01	Surveyor Salvage	Undecided	W	Undecided	0.500	500	MS
01	Whiteline	T.37S., R.9E., 3,13,14	E	August 2001	0.200	200	DM/UR
02	Surveyor Mtn.	T.38S.,R.5E., S.15,21,23,25,26,27 35,36 T.39S.,R.5E., S.1 T.39S.,R.6E., S.6,7	W	August 2002	4,500	550	DM/MS/RH
02	Grenada West	T.40S.,R.7E.,7 T.40S.,R.6E.,23,35 T.41S.,R.6E.,1,2,11, 13	W	May 2002	2500	1300	DM/UR
03	Saddled Again	T.39S., R.6E., 9,17,19,21	W	July 2003	2.0	600	DM
03	Adobe Bill	T. 40 S., R. 15E. Sec. 17-20, 29-32 T. 41 S., R. 15 E. Sec. 4-9	E	June 2003	1.0	600	DM

#### NOTES:

The sales listed above do not include small negotiated sales such as Right-of-Ways.

C W/E = W = Westside Sale (West of Klamath Falls) E = Eastside Sale (East of Klamath Falls)

# DM = Density Management sales are designed primarily to improve forest health conditions. Silvicultural prescriptions are written to maintain uneven aged stands and also maintain and improve the health and resiliency of primarily the shade intolerant species: ponderosa pine, sugar pine and Douglas-fir. They are also designed to reduce stand densities, fuel loads, and risk of stand replacing wildfires.

MS = Mortality Salvage sales are designed to capture the immediate but scattered mortality (dead or dying trees) occurring over the Resource Area.

This primarily involves only the removal of the recent mortality within the stand. Normally, less than 10% of the volume removed is live trees in the mortality salvage sales. Some thinning does occur beneath the old growth pines. Failure to remove the immediate mortality results in wood deterioration and complete loss of commercial value within approximately two years.

UR = Understory Reduction - Part of the objective of the sale is to reduce the density of primarily submerchantable (3"-7" diameter) shade tolerant species in the understory to reduce fire risk and ladder fuels as well as to enhance health of overstory trees.

RH = Regeneration Harvest - Designed primarily to initiate and to enhance the development of seedlings and saplings in the understory while still maintaining an overstory component. Per KFRA RMP requirements, of an average of 16-25 large green trees per acre will be left in Regeneration Harvest Units.

### Status of Sold & Awarded Klamath Falls RMP Timber Sales

Table 27 lists the status of Klamath Falls Resource Area sales that have been sold and awarded since signing of the RMP in June of 1995. As shown, the KFRA presently has ten completed timber sale contracts and three active contracts. Four timber sales have been monitored, three of which have involved the Regional Ecosystem Office (REO) review team, and all have involved the resource interdisciplinary team. The results from the monitoring are discussed in the monitoring section.

**Table 27. Status of Klamath Falls Resource Area Sold & Awarded Timber Sales Under The RMP**

FY Sold	Timber Sale Name	Location	W/E	Date	Volume (MMBF)	Acres	Harvest Prescription	Percent Completed / Monitored
95	Frosty One	Upper Johnson Creek Area	W	9/95	2.8	829	DM/UR	100%
96	Too Frosty	Upper Johnson Creek Area	W	1/96	2.5	459	DM/UR	100% Monitored FY 1997
96	West Rome I Salvage	KFRA Lands North of HWY 66	W	6/96	3.0	2,000	MS	100%
97	Lower Spencer Salvage	KFRA Lands North of HWY 66	W	12/96	2.5	2,000	MS	100% Monitored FY 1998
97	West Rome II Salvage	KFRA Lands North of HWY 66	W	12/96	2.0	1,500	MS	100%
97	Stukel Mtn.	Stukel Mtn Area	E	6/97	0.30	300	DM	100% Monitored FY 2000
97	SKB Neg. Salvage	Blowdown - Buck Mtn.	W	6/97	0.05	50	MS	100%
98	Kakapo Stew	Lower Spencer Creek Area	W	12/97	2.0	397	DM/UR	100% Monitored FY 1999
98	Grenada East	South of HWY 66 - West of Hamaker Mtn.	W	7/98	2.5	1,300	DM/UR	100%
98	STH Neg. Salvage	Blowdown - Burton Flat Area	W	9/98	0.05	50	MS	100%
99	Bly Mtn.	Klamath Forest Estates / Bly Mtn. Area	E	7/99	1.06	646	DM	0 %
00	Muddy Tom	South of HWY 66 - West of Klamath River Canyon	W	6/00	4.6	1,873	DM/UR	<5%
00	Clover Hookup	North of HWY 66 - Lower Spencer Creek Area	W	8/00	2.8	944	DM/UR/RH	0%
Non BLM Sales								
98	USFWS Bear Valley	Bear Valley Wildlife Refuge	W	6/97	1.0	245	DM/UR	100%

**NOTES:**

- The sales listed above do not include small negotiated sales such as Right-of-Ways.
- W/E = W = Westside Sale (West of Klamath Falls) E = Eastside Sale (East of Klamath Falls)
- DM = Density Management sales are designed primarily to improve forest health conditions. Silvicultural prescriptions are written to maintain uneven aged stands and also maintain and improve the health and resiliency of primarily the shade intolerant species: ponderosa pine, sugar pine and Douglas-fir. They are also designed to reduce stand densities, fuel loads, and risk of stand replacing wildfires.
- MS = Mortality Salvage sales are designed to capture the immediate but scattered mortality (dead and/or dying trees) occurring over the Resource Area. This primarily involves only the removal of the recent mortality within the stand. Normally, less than 10% of the volume removed is live trees in the mortality salvage sales. Some thinning does occur beneath the old growth pines. Failure to remove the immediate mortality results in wood deterioration and complete loss of commercial value within approximately two years.
- UR = Understory Reduction - Part of the objective of the sale is to reduce the density of primarily submerchantable (3"-7" diameter) shade tolerant species in the understory to reduce fire risk and ladder fuels as well as to enhance health of overstory trees.
- RH = Regeneration Harvest - Designed primarily to initiate and to enhance the development of seedlings and saplings in the understory while maintaining an overstory component. Per KFRA RMP requirements, an average of 16-25 large green trees per acre will be left in Regeneration Harvest Units.
- USFWS – Bear Valley – The first proposed timber sale within the Bear Valley National Wildlife Refuge. The sale is designed to maintain and improve forest health within the refuge by thinning overstocked stands. Designed mainly to thin understory trees beneath eagle roosting trees and also to reduce fuel loads and risk of stand replacement wildfires.
- Timber Sale monitored by IDT and/or REO review team.

### Analysis for Proposed Timber Sales

The National Environmental Policy Act and the Northwest Forest Plan Record of Decision require analysis of proposed timber sales. Table 28 lists completed Environmental Assessments and Watershed Analysis for Timber Sales within the Klamath Falls Resource Area.

<b>Table 28. Environmental Assessments and Watershed Analysis for Timber Sales</b>			
<b>FY</b>	<b>Sale Name</b>	<b>Environmental Assessment Name, Number, and Date</b>	<b>Supporting Watershed Analysis</b>
95	Frosty One	Frosty Forest Health Treatments & Recreation Site Enhancement ORO14-95-3, dated 8/25/95	Jenny Creek (Feb. 1995)
96	Too Frosty	Frosty Forest Health Treatments & Recreation Site Enhancement OR-O14-95-3, dated 8/25/95	Jenny Creek (Feb. 1995)
96	West Rome I Salvage	Roaming Salvage Timber Sales EA, OR-014-96-4, dated 5/21/96	Spencer Creek (Aug. 1995) Jenny Creek (Feb. 1995)
97	Lower Spencer Salvage	Roaming Salvage Timber Sales EA, OR-014-96-4, dated 5/21/96	Spencer Creek (Aug. 1995)
97	West Rome II Salvage	Roaming Salvage Timber Sales EA, OR-014-96-4, dated 5/21/96	Spencer Creek (Aug. 1995) Jenny Creek (Feb. 1995)
97	Stukel Mountain	Bryant/Stukel Salvage, Thinning, and Bald Eagle Enhancement Timber Sale, OR-014-94-12, dated 2/28/95	Landscape analysis, dated 2/28/95
97	USFWS Bear Valley	USFWS Bald Eagle Habitat Improvement Project, dated 10/25/95	Not applicable
98	Kakapo Stew	Lower Spencer Creek Watershed Forest Health Treatment, OR-014-96-2, per FONSI dated 5/17/96	Spencer Creek (Aug. 1995)
98	Grenada East	Topsy/Pokegama/Hamaker Forest Health Treatments EA, OR-014-98-1, dated 6/98	Topsy/Pokegama Landscape Analysis (July 1996)
99	Bly Mtn.	Bly Mtn., Swan Lake Rim, Whiteline Reservoir Forest Health and Woodland Treatments EA, OR-014-99-6, dated 5/24/1999	Not Applicable
00	Muddy Tom	Topsy/Pokegama/Hamaker Forest Health Treatments EA, OR-014-98-1, dated 6/98	Topsy/Pokegama Landscape Analysis (July 1996)
00	Clover Hookup	Lower Spencer Creek Watershed Forest Health Treatment, OR-014-96-2, per FONSI dated 5/17/96	Spencer Creek (Aug. 1995)

## Forest Development Activities

Data on Forest Development Activities is displayed in Table 29 (three pages). These data are for contracts awarded after October 1, 1994 and are displayed by fiscal year. Award date does not necessarily match the year the project was completed.

Overall, for the first six years of the KFRA RMP, silvicultural treatments implemented from timber sales, have focused on salvaging drought-related mortality and windthrow, as well as thinning overstocked stands. This forest health-driven prescription has resulted in fewer regeneration cuts than planned, and a reduced need for associated reforestation and development treatments that would follow.

### Brushfield conversion

In the RMP, no conversion acreage was identified for commercial forest lands, and no conversion treatments are expected.

**Site Preparation**

Accomplishments total 32% of planned levels on the westside of the resource area, and 9% on the eastside, which results from the emphasis on thinnings for forest health, as opposed to regeneration harvesting.

**Planting (regular stock)**

Tree planting is 71% of planned levels on the westside and 80% on the eastside. Planting is expected to decline over the next 4 years, due to emphasis on thinnings.

**Planting (improved stock)**

No improved stock has been reported used to date. Available stock is sugar pine and white pine, and possibly ponderosa pine and lodgepole pine from private sources. The use of genetically improved stock is expected to be well below planned levels, due having a smaller planting program than planned. Also, recent plantings have been in areas inappropriate for white pine and sugar pine.

**Vegetation Control**

This includes vegetation control treatments like brush cutting, grass grubbing, and paper mulching of seedlings. For the westside, treatments are 135% of planned levels, while eastside treatments completed are 160% of planned. It is expected that the treatment need may decline over the next four years, returning these treatments to near planned levels for the RMP's first decade.

**Precommercial Thinning (PCT)**

Treatment levels through FY 2000 are 196% of planned levels on the westside, and 195% of planned levels on the eastside. Depending upon funding, westside PCT treatments could be done at annual levels exceeding planned for the rest of the decade.

**Reforestation Thinning/Understory Reduction**

These treatments have usually been performed as part of timber sale operations. Westside treatments are 134% of planned, and eastside treatments are 15% of planned. Treatment needs are expected to continue at approximately planned levels on the westside, while eastside treatments are expected to increase to planned levels, assuming funding will be available.

**Pruning**

On the westside, 44% of planned work has been completed to date, on the eastside, 0%. The pruning acres are small and can easily be elevated to RMP planned levels under one service contract.

**Fertilization**

To date, no fertilization treatments have been implemented on either side of the resource area. The small areas planned for the decade could easily be done under one service contract. However, current fertilizer prices make fertilization costs prohibitive.

**Animal Damage Control**

On the KFRA, animal damage control is usually porcupine or pocket gopher control. Treatments to date are 41% of planned on the westside and 27% of planned on the eastside. Limited regeneration harvests have reduced these treatment needs. Many older plantations are growing in size and are less vulnerable to gopher damage.

Fiscal year 2000 forest development treatments were accomplished under four service contracts with a total value of \$162,883.

**Table 29. Klamath Falls Resource Area Forest Development Activities**

Activity acres	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	Totals to date	Average Annual	Projected Annual	Accomplish- ments as % of Projected
<b>ENTIRE RESOURCE AREA</b>										
Brushfield Conversion	0	0	0	0	0	0	0	0	0	0%
Site preparation	32	0	155	95	69	28	379	63	250	25%
Planting (regular stock)	396	210	428	289	141	97	1,561	260	360	72%
Planting (improved stock)	0	0	0	0	0	0	0	0	115	0%
Vegetation Control	392	370	106	253	314	400	1,835	306	225	136%
Precommercial Thinning	0	51	212	141	154	265	823	137	70	196%
Restoration Thinning Understory Reduction	412	230	0	1,281	129	419	2,471	412	440	94%
Pruning	0	0	0	0	43	0	43	7	29	24%
Fertilization	0	0	0	0	0	0	0	0	32	0%
Reforestation Surveys	3,870	2,970	3,490	3,200	3,500	2,920	19,950	3,325	0	---
Animal damage control	113	0	904	0	0	0	1,017	170	415	49%
Oak woodland thinning	0	0	103	0	173	0	276	46	0	---
<b>WESTSIDE</b>										
Brushfield Conversion	0	0	0	0	0	0	0	0	0	0%
Site preparation	32	0	120	95	69	28	344	57	180	32%
Planting (regular stock)	325	123	373	261	120	74	1,276	213	300	71%
Planting (improved stock)	0	0	0	0	0	0	0	0	100	0%
Vegetation Control	367	283	106	253	203	400	1,612	269	200	135%
Precommercial Thinning	0	51	150	91	154	144	590	98	50	196%
Restoration Thinning Understory Reduction	412	230	0	1,281	0	419	2,342	390	290	134%
Pruning	0	0	0	0	43	0	43	7	16	44%
Fertilization	0	0	0	0	0	0	0	0	32	0%
Reforestation Surveys	3,300	2,300	2,700	2,500	2,700	2,800	16,300	2,716	0	---
Animal damage control	88	0	904	0	0	0	992	165	400	41%
Oak woodland thinning	0	0	103	0	173	0	276	46	0	---

**Table 29 (Continued). Klamath Falls Resource Area Forest Development Activities**

Activity acres	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	Totals to date	Average Annual	Projected Annual	Accomplish- ments as % of Projected
<b>EASTSIDE</b>										
<b>Brushfield conversion</b>	0	0	0	0	0	0	0	0	0	0%
<b>Site preparation</b>	0	0	35	0	0	0	35	6	70	9%
<b>Planting (regular stock)</b>	71	87	55	28	21	23	285	48	60	80%
<b>Planting (improved stock)</b>	0	0	0	0	0	0	0	0	15	0%
<b>Vegetation Control</b>	41	87	0	0	111	0	239	40	25	160%
<b>Precommercial Thinning</b>	0	0	50	62	0	121	233	39	20	195%
<b>Restoration Thinning Understory Reduction</b>	0	0	0	0	129	0	129	22	150	15%
<b>Pruning</b>	0	0	0	0	0	0	0	0	13	0%
<b>Fertilization</b>	0	0	0	0	0	0	0	0	0	0%
<b>Reforestation Surveys</b>	570	670	790	700	800	120	3,650	608	0	---
<b>Animal damage control</b>	25	0	0	0	0	0	25	4	15	27%

## Special Forest Products

The district sold a variety of special forest products as shown in Table 30 (two pages). Through the first 6 years of the RMP, the more popular special forest products that the KFRA is selling are firewood, Christmas trees, and boughs. Occasional permits for mushrooms, mosses, and transplants have also been issued. The KFRA has issued between 50 and 150 permits per year with annual receipts ranging from \$850.00 to \$4,574.00. The sale of special forest products follow the guidelines contained in the Oregon/Washington Special Forest Products Procedure Handbook. There are no estimates of projections in the RMP ROD or FEIS that need to be compared to the sold quantities shown.

**Table 30. Special Forest Products Summary**

<b>Westside</b>							
<b><u>Products</u></b>							<b>East &amp; Westside Combined Totals</b>
<b>Boughs (lbs)</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	
# of Contracts	0	0	0	0	0	0	7
Quantity Sold (lbs)	0	0	0	0	0	0	35,600
Value (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$1,830
<b>Christmas Trees</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	15	10	36	8	18	87	94
Quantity Sold (#)	17	12	47	9	21	106	113
Value (\$)	\$85	\$60	\$234	\$45	\$105	\$529	\$563
<b>Seeds&amp;Cones</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	0	0	0	1	4	5	6
Quantity Sold (Bushels)	0	0	0	1000	850	1850	2,550
Value (\$)	\$0	\$0	\$0	\$50	\$75	\$125	\$251
<b>Mosses/ Bryophytes</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	0	0	0	1	0	1	2
Quantity Sold (lbs)	0	0	0	16	0	16	36
Value (\$)	\$0	\$0	\$0	\$14	\$0	\$14	\$24
<b>Mushrooms/ Fungi</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	5	2	6	1	17	31	36
Quantity Sold (lbs)	500	200	600	20	1030	2350	3,300
Value (\$)	\$50	\$20	\$60	\$8	\$286	\$424	\$564
<b>Transplants</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	1	1	0	0	0	2	3
Quantity Sold (#)	200	44	0	0	0	244	744
Value (\$)	\$20	\$22	\$0	\$0	\$0	\$42	\$52
<b>Wood Products / Firewood</b>	<b>FY 96</b>	<b>FY97</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>	<b>Totals</b>	<b>Combined Totals</b>
# of Contracts	5	6	3	12	31	57	283
Quantity (cf)	1050	7462	463	2201	10122	21298	102,724
Value (\$)	\$48	\$1,920	\$26	\$111	\$2,689	\$4,794	\$8,963
Total # of All Contracts	70	19	45	23	70	183	431
Total \$ All Contracts	\$3,155	\$2,022	\$320	\$228	\$3,155	\$5,928	\$12,247



Table 30 (Continued). Special Forest Products Summary							
Eastside							
Products							East & Westside
Boughs (lbs)	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	1	1	0	5	0	7	7
Quantity Sold (lbs)	0	25,000	0	10,600	0	35,600	35,600
Value (\$)	\$50	\$1,250	\$0	\$530	\$0	\$1,830	\$1,830
Christmas Trees	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	5	0	0	1	1	7	94
Quantity Sold (#)	5	0	0	1	1	7	113
Value (\$)	\$25	\$0	\$0	\$4	\$5	\$34	\$563
Seeds&Cones	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	0	0	0	0	1	1	6
Quantity Sold (Bushels)	0	0	0	0	700	700	2,550
Value (\$)	\$0	\$0	\$0	\$0	\$126	\$126	\$251
Mosses/ Bryophytes	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	0	0	0	0	1	1	2
Quantity Sold (lbs)	0	0	0	0	20	20	36
Value (\$)	\$0	\$0	\$0	\$0	\$10	\$10	\$24
Mushrooms/ Fungi	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	3	0	2	0	0	5	36
Quantity Sold (lbs)	750	0	200	0	0	950	3,300
Value (\$)	\$120	\$0	\$20	\$0	\$0	\$140	\$564
Transplants	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	0	1	0	0	0	1	3
Quantity Sold (#)	0	500	0	0	0	500	744
Value (\$)	\$0	\$10	\$0	\$0	\$0	\$10	\$52
Wood Products / Firewood	FY 96	FY97	FY98	FY99	FY00	Totals	Combined Totals
# of Contracts	27	31	19	58	91	226	283
Quantity (cf)	6,622	10,192	4,337	15,078	45,197	81,426	102,724
Value (\$)	\$452	\$1,292	\$254	\$788	\$1,383	\$4,169	\$8,963
Total # of All Contracts	36	33	21	64	94	248	431
Total \$ All Contracts	\$647	\$2,552	\$274	\$1,322	\$1,524	\$6,319	\$12,247

## Noxious Weeds

The objective of the noxious weed management program in the Klamath Falls Resource Area is to contain or reduce noxious weed infestations using an integrated pest management approach. Integrated pest management includes manual, mechanical, chemical, and biological control methods which are used in accordance with the Klamath Falls Resource Area Integrated Weed Control Plan (IWCP) and Environmental Assessment (EA)(OR-014-93-09), which is tiered to the Northwest Area Noxious Weed Control Program Environmental Impact Statement (EIS) (December 1985) and Supplement (March 1987).

## Inventories

The Klamath Falls Resource Area continues to survey BLM-administered land for noxious weeds by including noxious weeds in project clearance surveys, and through systematic inventories conducted through contracts. During FY 2000, 13,760 acres were systematically inventoried for noxious weeds. New populations of noxious weed species found included Mediterranean sage (*Salvia aethiopsis*), Canada thistle (*Cirsium arvense*), and Musk thistle (*Carduus nutans*). Two hundred fifteen noxious weed infested sites covering approximately 240 acres of BLM lands were chemically and manually treated by the ODA noxious weed treatment crew supervised by the ODA weed management specialist according to the annual operations plan and resource area priorities (Table 31).

## Access and Rights-of-Way

Table 2 in the front of this document summarizes some of the various realty actions accomplished in the five years since implementation of the RMP. No amendments to the three existing reciprocal right-of-way agreements were made in FY 2000.

Applications for rights-of-way have been received and processed at a moderate and consistent rate. New authorizations are predominantly for commercial use of existing roads to haul timber and other forest products. Rights-of-way were issued for timber haul roads, communications sites, and power lines.

## Roads

The resource area is currently developing Transportation Management Objectives (TMOs) for each BLM road. A Transportation Management Plan (TMP) is being developed for eastside lands and should be completed in the next four years. A TMP was completed for O&C lands west of Highway 97 in 1996. Approximately 75% of the TMOs are completed for the westside. The TMP will become final when the objectives are completed. If management changes over time, TMOs will also be revised.

Approximately 520 miles of BLM controlled roads are within the Klamath Falls Resource Area. BLM maintains approximately 50 miles of these roads annually. Additionally, timber sale contracts and road use permits authorize use of BLM roads. In these instances, the road user performs the maintenance.

**Table 31. Noxious Weed Management Summary**

Treatment	Species	FY95	FY96	FY97	FY98	FY99	FY00
<b>Manual</b>	<i>Centuarea solititalis</i> (yellow starthistle)	1.0	1.0	1.0	1.0	1.0	1.0
	<i>Cytisus scoparius</i> (Scotch broom)	0.1	0.1	0.1	0.1	0.1	0.1
	<i>Xanthium spinosum</i> (Spiny clotbur)	0.5	0.5	0.5	0.5	0.5	0.5
	<b>TOTAL</b>	1.6	1.6	1.6	1.6	1.6	1.6
<b>Chemical</b>	<i>Acroptilon repens</i> (Russian knapweed)	0.1	0.1	0.1	0.1	0.1	0.1
	<i>Cardaria draba</i> (hoary cress)	0.2	0.2	0.2	0.2	0.2	0.2
	<i>Carduus nutans</i> (musk thistle)	35	12	20	32	35	37
	<i>Centaurea diffusa</i> (diffuse knapweed)	5	1	2	7	7	7
	<i>Centuarea solititalis</i> (yellow starthistle)	95	40	50	90	95	95
	<i>Cirsium arvense</i> (Canada thistle)	5	2	4	14	14	15
	<i>Euphorbia esula</i> (leafy spurge)	30	22	30	32	32	32
	<i>Hypericum perforatum</i> (common St. John's wort)	0	0	1	1	2	2
	<i>Isatis tinctoria</i> (dyer's woad)	0	0	0.1	0.1	0.1	0.1
	<i>Linaria genistifolia</i> spp. <i>dalmatica</i> (dalmatian toadflax)	1	1	2	3	5	5
	<i>Onopordum acanthium</i> (Scotch thistle)	28	15	22	30	33	34
	<i>Salvia aethiopsis</i> (Mediterranean sage)	5	5	5	10	10	10
	<i>Senecio jacobaea</i> (tansy ragwort)	2	2	2	2	2	2
	<i>Cytisus scoparius</i> (Scotch broom)	0.2	0.2	0.2	0.2	0.2	0.2
	<b>TOTAL</b>	206.5	100.5	137.6	221.6	235.6	240.6
<b>Biological</b>	<i>Carduus nutans</i> (musk thistle)	0	0	0	0	10	0
	<i>Centaurea diffusa</i> (diffuse knapweed)	0	0	0	5	0	0
	<i>Centuarea solititalis</i> (yellow starthistle)	50	50	50	50	0	0
	<i>Cirsium arvense</i> (Canada thistle)	0	5	0	0	0	0
	<i>Euphorbia esula</i> (leafy spurge)	0	20	0	20	20	10
	<i>Linaria genistifolia</i> spp. <i>dalmatica</i> (dalmatian toadflax)	0	0	0	0	0	5
	<b>TOTAL</b>	50	70	50	75	30	15

**Table 32. KFRA Road Summary Sheet (Entire Resource Area 215,520 Acres)**

RMP Accomplishments By Fiscal Year	Pre-RMP Base Line (Miles)	1995 (Miles)	1996 (Miles)	1997 (Miles)	1998 (Miles)	1999		2000		Totals	
						Mi.	Ac.	Mi.	Ac.	Mi.	Ac.
New Construction	NA	0.00	0.00	0.00	0.00	2.20	5.40	3.30	8.00	5.50	13.4
Obliteration/ Decommission	NA	0.00	0.00	0.00	0.00	2.30	4.50	2.70	5.40	5.00	9.90
Closed Roads (Year Round)	NA	0.00	0.00	0.50	0.18	1.80		1.20		3.68	
Closed Roads (Seasonal)	NA	0.00	0.00	0.00	0.00	18.00		0.00		18.00	
Improvements (Miles)	NA	0.00	2.10	0.00	2.20	1.40		3.70		9.40	
Cumulative Accomplishments	Pre-RMP Base Line (Miles)	1995 (Miles)	1996 (Miles)	1997 (Miles)	1998 (Miles)	1999 (Miles)		2000 (Miles)			
Closed Roads (Seasonal)	106.00	106.00	106.00	106.00	106.00	124.00		124.00			
Closed Roads (Year Round)	87.12	87.12	87.12	87.62	87.80	89.60		90.80			
Open Roads	323.88	323.88	323.88	323.38	323.20	303.30		302.70			
Total Roads	517.00	517.00	517.00	517.00	517.00	516.90		517.50			
Density Status Miles of Rd/Square Miles	Pre-RMP Base Line (Miles/Sq. Mile)	1995 (Miles/Sq. Mile)	1996 (Miles/Sq. Mile)	1997 (Miles/Sq. Mile)	1998 (Miles/Sq. Mile)	1999 (Miles/Sq. Mile)		2000 (Miles/Sq. Mile)			
Closed Roads (Seasonal)	0.3	0.3	0.3	0.3	0.3	0.4		0.4			
Closed Roads (Year Round)	0.3	0.3	0.3	0.3	0.3	0.3		0.3			
Open Roads	1.0	1.0	1.0	1.0	1.0	0.9		0.9			
Total Density	1.5	1.5	1.5	1.5	1.5	1.5		1.5			

**Table 32 (Continued). KFRA Road Summary Sheet (Westside 51,193 Acres)**

RMP Accomplishments By Fiscal Year	Pre-RMP Base Line (Miles)	1995 (Miles)	1996 (Miles)	1997 (Miles)	1998 (Miles)	1999		2000		Totals	
						Mi.	Ac.	Mi.	Ac.	Mi.	Ac.
New Construction	NA	0.00	0.00	0.00	0.00	2.20	5.40	1.20	2.90	3.40	8.30
Obliteration/ Decommission	NA	0.00	0.00	0.00	0.00	2.30	4.50	1.60	3.30	3.90	7.80
Closed Roads (Year Round)	NA	0.00	0.00	0.50	0.18	1.80		1.20		3.68	
Closed Roads (Seasonal)	NA	0.00	0.00	0.00	0.00	0.00		0.00		0.00	
Improvements (Miles)	NA	0.00	2.10	0.00	1.70	1.40		3.30		8.50	
Cumulative Accomplishments	Pre-RMP Base Line (Miles)	1995 (Miles)	1996 (Miles)	1997 (Miles)	1998 (Miles)	1999 (Miles)	2000 (Miles)				
Closed Roads (Seasonal)	48.00	48.00	48.00	48.00	48.00	48.00	48.00				
Closed Roads (Year Round)	87.12	87.12	87.12	87.62	87.80	89.60	90.80				
Open Roads	152.88	152.88	152.88	152.38	152.20	150.30	148.70				
Total Roads	288.00	288.00	288.00	288.00	288.00	287.90	287.50				
Density Status Miles of Rd/Square Miles	Pre-RMP Base Line (Miles/Sq. Mile)	1995 (Miles/Sq. Mile)	1996 (Miles/Sq. Mile)	1997 (Miles/Sq. Mile)	1998 (Miles/Sq. Mile)	1999 (Miles/Sq. Mile)	2000 (Miles/Sq. Mile)				
Closed Roads (Seasonal)	0.6	0.6	0.6	0.6	0.6	0.6	0.6				
Closed Roads (Year Round)	1.1	1.1	1.1	1.1	1.1	1.1	1.1				
Open Roads	1.9	1.9	1.9	1.9	1.9	1.9	1.9				
Total Density	3.6	3.6	3.6	3.6	3.6	3.6	3.6				

**Table 32 (Continued). KFRA Road Summary Sheet (Eastside 164,327 Acres)**

RMP Accomplishments By Fiscal Year	Pre-RMP Base Line (Miles)	1995 (Miles)	1996 (Miles)	1997 (Miles)	1998 (Miles)	1999		2000		Totals	
						Mi.	Ac.	Mi.	Ac.	Mi.	Ac.
New Construction	NA	0.00	0.00	0.00	0.00	0.00	0.00	2.10	5.10	2.10	5.10
Obliteration/ Decommission	NA	0.00	0.00	0.00	0.00	0.00	0.00	1.10	2.10	1.10	2.10
Closed Roads (Year Round)	NA	0.00	0.00	0.00	0.00	0.00		0.00		0.00	
Closed Roads (Seasonal)	NA	0.00	0.00	0.00	0.00	18.00		0.00		18.00	
Improvements (Miles)	NA	0.00	0.00	0.00	0.50	0.00		0.40		0.90	
<b>Cumulative Accomplishments</b>	<b>Pre-RMP Base Line (Miles)</b>	<b>1995 (Miles)</b>	<b>1996 (Miles)</b>	<b>1997 (Miles)</b>	<b>1998 (Miles)</b>	<b>1999 (Miles)</b>		<b>2000 (Miles)</b>			
Closed Roads (Seasonal)	58.00	58.00	58.00	58.00	58.00	76.00		76.00			
Closed Roads (Year Round)	0.00	0.00	0.00	0.00	0.00	0.00		0.00			
Open Roads	171.00	171.00	171.00	171.00	171.00	153.00		154.00			
Total Roads	229.00	229.00	229.00	229.00	229.00	229.00		230.00			
<b>Density Status Miles of Rd/Square Miles</b>	<b>Pre-RMP Base Line (Miles/Sq. Mile)</b>	<b>1995 (Miles/Sq. Mile)</b>	<b>1996 (Miles/Sq. Mile)</b>	<b>1997 (Miles/Sq. Mile)</b>	<b>1998 (Miles/Sq. Mile)</b>	<b>1999 (Miles/Sq. Mile)</b>		<b>2000 (Miles/Sq. Mile)</b>			
Closed Roads (Seasonal)	0.2	0.2	0.2	0.2	0.2	0.3		0.3			
Closed Roads (Year Round)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Open Roads	0.7	0.7	0.7	0.7	0.7	0.6		0.6			
Total Density	0.9	0.9	0.9	0.9	0.9	0.9		0.9			

## Energy and Minerals

There were no mining plans of operations submitted for FY 2000 nor were mining or energy notices received. There are no leases of oil, gas or geothermal resources within the Klamath Falls Resource Area, although there are several known geothermal resource areas and most of the public lands are prospectively valuable for oil and gas. One mining claim was filed in FY 2000. In FY 2000, the resource area sold 500 cubic yards of volcanic cinders to individuals and provided 26,000 cubic yards of rock free of charge to local governments.

## Land Tenure Adjustments

Since completion of the RMP, 1,680 acres have been sold. The land was sold to offset losses to Klamath County's tax base that resulted from the Wood River acquisition. Currently, 960 acres of public land are being evaluated for sale.

Since the RMP was completed, 1,160 acres have been evaluated for sale, and disposal may be accomplished only by exchange. An additional 5,640 acres have been evaluated for sale but will be retained in Federal ownership. Resource values, including, but not limited to, wildlife habitat, timber, and cultural resources found on these lands justify retention in public ownership. In the plan amendment, Appendix I was updated to reflect the work accomplished over the past 4 years in evaluating public lands for sale or exchange.

Public Law 105-321 requires that, when selling, purchasing and exchanging land, the Bureau of Land Management may neither, 1) reduce the total acres of O&C, CBWR and Public Domain lands, nor, 2) reduce the number of O&C, CBWR, and PD lands that are available for timber harvest below what existed on October 30, 1998.

An amendment to the RMP on Unintentional Encroachments and Survey Hiatuses was completed in FY 99. The plan amendment allowed a 1.62-acre tract of land to be moved from Land Tenure Zone 1 to Land Tenure Zone 3, which allows for sale. The amendment added the following provision to the Land Tenure Adjustment - Management Actions/Direction for All Land Use Allocations section:

“Where survey hiatuses and unintentional encroachments on public lands are discovered in the future that meet disposal criteria, the lands may be automatically assigned to Zone 3 for disposal.”

The disposal criteria to be used are those defined in Appendix I of the Klamath Falls Resource Area Record of Decision and Resource Management Plan, June 1995.

## **Hazardous Materials**

No new hazardous waste sites have been discovered. Unauthorized dumping of household trash on public lands continues to increase. A major cleanup of the Gerber area was accomplished on public lands day with the help of members of the Klamath 4Runners vehicle club and other citizens. Neighboring landowners helped BLM remove household trash and abandoned automobiles from the hunter access parking lots on Klamath Hills.

## **Coordination and Consultation**

### **Federal Agencies**

During the period of June 1995 through September 2000, BLM has increased its cooperative efforts with other federal agencies. The BLM has been very involved with the U.S. Fish and Wildlife Service, U.S. Forest Service, Environmental Protection Agency, U.S. Geological Survey, Bureau of Reclamation, and National Resource Conservation Service on projects such as watershed analysis, water quality improvement projects, and the Wood River Wetlands Restoration Project. In addition, personnel from these agencies have been involved in planning, conflict resolution, and Section 7 consultation under the Endangered Species Act.

The Regional Interagency Executive Committee, Klamath Provincial Advisory Committee, Klamath Basin Ecosystem Restoration Office, and the Regional Ecosystem Office, established under the Northwest Forest Plan, have increased BLM's interagency role as well.

### **U.S. Fish and Wildlife Service / Bear Valley National Wildlife Refuge**

The first forest health treatment in the Bear Valley National Wildlife Refuge was completed in November of 1999. The first treatment was a 245 acre timber sale that focused primarily on maintaining and improving bald eagle nesting and roosting habitat. The treatment consisted of thinning primarily the overstocked understory trees to improve the resiliency of the remaining trees and reduce the risk of stand replacing wildfires. The first followup prescribed burn was implemented in the fall of 1999 in areas that had been harvested to reduce remaining fuel loads. In addition to the habitat treatments, some road improvements and road decommissioning occurred along with replacement of an access bridge. A second treatment in the refuge is scheduled for 2001. The USF&WS and the BLM, through a memorandum of understanding, have shared specialists to complete both restoration work in the refuge as well as wetland restoration work at Wood River.

## **Klamath Basin Ecosystem Restoration Office**

The Ecosystem Restoration Office (ERO) is an interagency office, which is operated cooperatively by the U.S. Fish and Wildlife Service, Bureau of Reclamation, U.S. Forest Service and the BLM. This interagency office provides funding, technical assistance, and monitoring for watershed restoration projects which are proposed by private landowners, private and public organizations and agencies, and the Upper Klamath Basin Working Group. The ERO works closely with the Klamath Basin Provincial Advisory Committee and watershed councils within the Klamath Basin. BLM has helped support this office since 1997.

## **State of Oregon**

The Klamath Falls Resource Area has continued its long term working relationship with Oregon Department of Forestry, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Parks and Recreation Department, State Historic Preservation Office, and the Oregon Department of Environmental Quality. BLM has participated with these agencies in diverse activities such as recreation and timber sale planning, fish habitat inventory, water quality monitoring and TMDL development, noxious weed management, hazardous material cleanup, air quality maintenance, and wildfire suppression.

## **Counties**

The Klamath Falls Resource Area (KFRA) is located within Klamath County. There is frequent communication between the KFRA and county commissioners and other county staff. This communication involves BLM proposed projects, county projects that may affect county lands, water quality issues, noxious weed issues, and other issues. County Commissioners receive copies of all major publications, project updates and project proposals.

## **Cities**

The KFRA works with City of Klamath Falls staff in the areas where BLM lands adjoin to city limits. Four Klamath Falls Resource Area personnel who are attending a ten month long Leadership Klamath 2000 training which gives participants an overview of the history, workings, and interrelationships of city and county government and reviews services and relationships to private, state, and federal agencies.

## **Tribes**

Tribes are represented on the Southeast Oregon Provincial Interagency Executive Committee, which coordinates activities within the province. The KFRA contacts the Klamath Tribes directly for coordination of many projects. The Lakeview District is in the process of developing a Memorandum of Understanding (MOU) between the BLM and the Klamath Tribes. It is anticipated the MOU will be finalized in FY 2000. As mentioned above, the BLM is working with numerous tribes on FERC relicensing and development of the Klamath River Management Plan.

## **Watershed Councils**

There is ongoing participation with the Klamath Watershed Council and associated Working Groups. The BLM is represented on the Councils' Technical Advisory Committee and participates in cooperative activities that can benefit public lands. The council is active in coordinating watershed and water quality enhancement projects on private lands.

## **Upper Klamath Basin Working Group**

The BLM is also involved in the Upper Klamath Basin Working Group. The working group was appointed by Senator Mark Hatfield in 1995 and authorized by Congress under the Oregon Resource Conservation Act. The senator's charge for the group was to identify short and long term solutions to issues in the Upper Klamath basin. Specifically he asked the group to address:



- Ecosystem restoration and water quality
- Economic stability
- Reducing drought impacts

The working group was designed to be citizen-led. Two non-agency members serve as co-chairs. The membership totals 33, including representatives from -- the Klamath Tribes (3 members), the city of Klamath Falls, Klamath County, Oregon State government (2 members), the Soil and Water Conservation district, Oregon Institute of Technology, the environmental community (4 members including a California representative with refuge interests), local businesses (4 members including the wood products industry and commercial and recreational fisheries), the ranching and farming community (4 members), and the local community (4 members). In addition, there are representatives from eight federal agencies – U.S. Fish and Wildlife Service, the Bureau of Reclamation, the Bureau of Land Management, the Bureau of Indian Affairs, the U.S. Forest Service, the Natural Resource Conservation Service, and the national Marine Fisheries Service.

The working group meets regularly to address issues, and propose and seek out grants for projects that promote ecosystem restoration.

## **Other Local Coordination and Cooperation**

### **Klamath-Lake Forest Health Partnership**

A partnership was created in 1995 to promote forest health in Klamath and Lake Counties. This included private industrial and non-industrial landowners, The Nature Conservancy, Chiloquin Visions in Progress, Klamath Ecosystem Education Partnership, consulting foresters, county, state, and federal agencies who work together on problem solving, sharing science and information, and providing assistance to small woodland owners. The KFRA is a member of this active partnership that meets monthly.

### **Klamath-Lake-Modoc-Siskiyou Outdoor Recreation Working Group:**

This working group was formed in 1991. This is a multi-county organization, which covers portions of southern Oregon and northern California. This working group provides a forum where private businesses, city, county, state, and federal agencies communicate, plan, and implement recreational and tourism activities. BLM is an active participant.

Major accomplishments have been the development of 19 outdoor recreation brochures, the construction of 50 highway rest stop displays in locations in California and Oregon, and provide tear off sheet maps that highlight outdoor recreational activities. The brochures and tear sheet maps are used in motels, restaurants, and other business to promote outdoor recreation and tourism in the four-county area. Representatives from this group also meet quarterly with the county commissioners from each county to share information and receive new ideas.

### **Klamath Basin Water Adjudication Resolution Process**

The Oregon Water Resources Department (WRD) initiated the Klamath Basin Adjudication in 1975. The Klamath Adjudication is an Oregon general water claim adjudication in which the final decree will be issued by the Klamath County Circuit Court. All Adjudication claims were filed with the WRD by April 1997. The Adjudication is the first Oregon general water adjudication in which complex federal claims have been filed.

Given the complexity of the Adjudication and other water allocation issues in the Klamath Basin, the WRD has initiated a voluntary alternative dispute resolution (ADR) process to provide a forum to address Adjudication claim issues and other matters related to water supply and demand in the Klamath Basin. The BLM is an active participant in the Adjudication process.

### **Coordinated Resource Management Plans (CRMP)**

Coordinated resource management planning involves resource owners, managers, users, and specialists, concurrently formulating and implementing plans for the management and use of all natural resources and ownerships within a specific area. The group established through the planning effort provides a forum to help resolve resource conflicts. The KFRA is involved in three Coordinated Resource Management Planning areas: the Yainax, Spencer Creek, Rock Creek and Gerber-Willow Valley areas.

**Yainax CRMP**

The Yainax Butte CRMP was originally completed in 1974 in conjunction with the United States Forest Service (USFS), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of State Lands (ODSL), Oregon Department of Transportation (ODOT), Klamath County Extension Service, Natural Resource Conservation Service (NRCS), Weyerhaeuser, and the common grazing permittee. In 1993, the plan was completely revised with the same group of organizations and a new grazing permittee. The revised plan is still in effect and being followed by the current grazing permittee (different than in 1993) and the successor to Weyerhaeuser - U. S. Timberlands. The Yainax Butte CRMP addressed a myriad of issues including grazing, forestry, recreation, wildlife, T&E species, private land and cultural issues. The CRMP directs the management of the area to accomplish a broad range of resource goals and uses.

**Spencer Creek CRMP**

This CRMP was developed in 1990 and was updated in 1994. The planning group is made up of county, state, and federal agency personnel and private landowners who coordinate watershed enhancement and other projects within the Spencer Creek Watershed.

**Rock Creek CRMP**

The BLM's Rock Creek allotment is included in the broader Warm Springs Coordinated Allotment Management Plan. This plan was originally completed in 1983 with the Modoc National Forest (NF), Fremont National Forest, and the common permittee, and establishes resource objectives and institutes a grazing system to address the resource issues. The Warm Springs Coordinated Plan is in the process of being revised with the Modoc NF taking the lead, as they are the majority land administrator.

**Gerber/Willow Valley CRMP**

Development of this plan began in the fall of 1999 (FY 2000). The first objective is to complete a joint watershed analysis on two 5<sup>th</sup> field watersheds (Gerber and Willow Valley) with BLM, Forest Service and private landowners participating. Federal agencies involved are the Klamath Falls Resource Area, Fremont National Forest, and Modoc National Forest (California). Following completion of the watershed analysis, a coordinated resource management plan will be developed to include concerns and opportunities that adjacent private landowners have for improving their lands within the analysis area boundary. The CRMP process is just in the very early stages of development.

**Pokegama Working Group**

This working group was formed in 1991 to coordinate projects to improve habitat in big-game winter range and reduce harassment of wildlife during critical winter months. This group has been active in informing and educating the public of the critical habitat needs for deer and elk. Members of this group include US Timberlands, PacifiCorps, Oregon Department of Fish and Wildlife and the BLM.

**Intermountain West Joint Venture (IWJV)**

The IWJV was formed in 1995 and covers eastern Oregon and parts of nine other western states. This group meets quarterly and is in the process of writing an area plan with input by local Federal and State agencies, and private organizations to determine conditions of wetlands and identify opportunities to improve habitat. Oregon Wetlands Group hired a private consultant to write the plan (in development) that will focus on the Klamath Basin eco-region. This plan, as well as other eco-region plans within the ten western states, is following the guidelines outlined under the North American Wetlands Conservation Act of 1989. The representatives for the Klamath Basin eco-region are BLM, Ducks Unlimited, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Modoc National Forest, California Fish and Game, and Oregon Joint Venture. The plan, to include wetland restoration projects, is expected to be completed within two years. Wood River Wetland restoration is part of the Plan.

## Research and Education

### Research

Several research projects were active on the Klamath Falls Resource Area during FY 2000. These include:

#### Red-root Yampa

Reintroduction of the red-root yampa (*Perideridia erythrorhiza*) into habitats currently unoccupied by the species on public lands within its historic range. Also, limited reciprocal transplanting of east- and west-side individuals is being conducted to advance our knowledge about functional genetic differences between east- and west-side populations of *P. erythrorhiza*. The project began in October 1998 and was funded through data collection in the summer of 2000. The final report has been received and is under review by the cooperating agencies. This study is in cooperation with Forest Service (Winema National Forest), Oregon Dept. of Agriculture, and BLM Roseburg and Medford Districts.

#### Bald Eagle Roosting

Roosting success of bald eagles in response to silvicultural treatments. Data on roosting success are being collected in areas treated to thin the forest understory to promote maintenance and recruitment of large roost trees, and in areas left untreated (control). Three years of pre-treatment data were collected and one year of post treatment data has been collected.

#### Neotropical Birds

A study of neotropical migratory birds is being conducted in cooperation with Klamath Bird Observatory, Pacific Southwest Research, PacifiCorp, Winema National Forest, and Point Reyes Bird Observatory. On BLM lands, there are 195 point-count stations and four constant effort mist-netting sites in a variety of habitats. Also see Neotropical Birds discussion.

#### Yellow Rails

A research project on yellow rails has collected data on the populations of yellow rails at the Four Mile Creek Wetland and the Wood River Wetland to serve as a baseline for an assessment of population trends. Valuable information on site fidelity, habitat needs, and potential life span were collected.

#### Prescribed Fire

The BLM plans to initiate a prescribed burn adjacent to the Old Baldy RNA, which is administered jointly by the BLM Klamath Falls Resource Area (Lakeview District) and Ashland Resource Area (Medford District). The fire will be allowed to burn into the Old Baldy RNA. Prescribed fire effects monitoring plots were established in FY 99 according to protocols developed by the National Park Service, and pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP). Re-surveys will be conducted in mid- to late summer of 2001, 2002 and 2005, after the planned spring 2001 ignitions. Analysis will describe changes in cover and frequency of species, fuel loading, and the organic soil layers.

### Education

#### Outreach

In 2000, the Klamath Falls Resource Area was very active in participating in environmental education programs in the surrounding community. KFRA employees presented programs to approximately four hundred fifty students at twelve different schools. The focus of the programs included archeology, forestry, wetland biology, wildlife biology, rangeland ecology and careers in natural resources. Students ranged in age from first graders to college students. Three hundred students visited Wood River wetland to learn about wetland form and function and used Wood River wetland as an outdoor classroom. BLM also participated in several specific activities throughout the county, which are listed below. Table 33, summarizes these activities.

<b>Table 33. Klamath Falls Resource Area Education Program</b>				
<b>General Outreach in FY 2000</b>				
<b>Date</b>	<b>Where</b>	<b>What Was Presented</b>	<b>Group Age</b>	<b># People</b>
1/18/00	Henley High School	Natural Resources Careers and RAP camp	15-18 yr olds (2 sessions)	60
2/24/00	Wood River	Using wetlands as an outdoor classroom	Teachers from Henley H.S.	4
2/29/00	Dynasty Restaurant	Backyard Bird Feeding	Adults (Lions Club)	12
3/13-15/00	OIT	"Expanding Your Horizons"	8th grade girls	119
4/27/00	Wood River	Fence Removal, Tree Planting & spotted frogs	7th & 8th graders (Lost River H.S.)	25
5/11/00	Wood River	Overview for Ecology Students	OIT Students	6
5/18/00	Henley High School	Career Fair	High School Students	~200
5/18/00	OHA	Road Closures & Wildlife	Adults	30
5/25/00	Rocky Point	Forestry/Wildlife	2nd graders (Fairhaven Elem.)	50
6/2/00	Link River	Nature Walk	2nd graders (Furgeson Elem.)	90
9/25/00	Wood River	Tree Planting and Fence Removal	Henley HS - Ag/Forestry Dept.	24
<b>Resource Area Tours</b>				
<b>Date</b>	<b>Where</b>	<b>What Was Presented</b>	<b>Group Age</b>	<b># People</b>
12/20/99	Wood River	Tour of wetlands and fish screw trap	13 yr old	1
4/14/00	Wood River	Ducks Unlimited Tour of wetland	Adults	25
6/2/00	Wood River	Tour of wetlands	3rd graders (Roosevelt Elem.)	85
8/9/00	Wood River	Tour for Teachers	Adults	7
9/15/00	Wood River	Wildlife Discovery Tour	5th graders (Keno Elem.)	60
9/20/00	Wood River	Project Review Tour	Adults (OR Division of State Lands)	12
10/12/00	Wood River	Tour of wetlands	Adults (CA Joint Venture)	6
10/17/00	Wood River	Briefing/Tour	Adults (Klamath Leadership 2000)	17
11/7/00	Wood River	Tour of wetlands	OIT Environmental Science Class	17
<b>Special Events</b>				
<b>Date</b>	<b>Where</b>	<b>Event/Activity</b>	<b># Employee Participants</b>	<b># People</b>
12/8/99	Lower Klamath Hills	Clean Up Day	20 employees	10
4/22/00	Jefferson Square Mall	Earth Day	6 employees	~750
5/6/00	Moore Park	International Migratory Bird Day	~20 employees	~250
5/19/00-5/21/00	Klamath Co. Fairgrounds	Packing Clinic	~10 employees	~2000
6/10/00	Keno Rec. Park	Fishing Day	25 employees and family	95
6/18/00-6/24/00	Lake of the Woods	RAP Camp	~20 employees	65
8/5/00	Klamath Union HS	A Family A'Faire (SCF event)	5 employees	100
8/10/00-8/13/00	Klamath Co. Fairgrounds	Klamath County Fair	~10 employees	~2000
9/1/00-9/5/00	Lake Co. Fairgrounds	Lake Co. Fair	3 employees	~1000
9/20/00-9/21/00	Clover Creek	Forestry School tour	1 employee	160
9/23/00	Gerber	National Public Lands Day	13 employee volunteers	24

### **13<sup>th</sup> Annual Horse Packing & Wilderness Skills Clinic/BLM Wild Horse Adoption**

This two-day clinic, held at the Klamath County Fairgrounds in May, presents proper animal packing techniques and valuable low-impact camping techniques. This clinic is free of charge and is open to the general public. The BLM provided resource specialists, who answered questions regarding recreational opportunities on nearby public lands. In 1999, the highlight of the event was the BLM's successful wild horse adoption. Twenty-one horses were successfully adopted through a competitive bid process. This event was very well attended, with nearly 3000 registered visitors. No adoptions were available at this event in 2000, but 35 wild horses and 6 burros will be up for adoption in 2001.

### **1st Annual International Migratory Bird Day Celebration**

International Migratory Bird Day is celebrated worldwide, and is an event to educate people about the marvels of bird migration, issues facing songbirds, and what the people can do to help. Locally, the Klamath Falls Resource Area, in cooperation with USFWS and community volunteers, organized and sponsored a Saturday family event (5/6/00) at Moore Park. Approximately 300 people attended of all ages.

### **Klamath County Foster Children Fishing Day**

Klamath Falls Resource Area worked with the Oregon State Office for Services to Children and Families to provide a Free Fishing Day for foster children living in Klamath and Lake Counties. The event is a part of National Fishing Week and took place on June 10, 2000 at the Keno Recreation Park. There were activities the night before the event hosted by the local chapter of girl scouts. Approximately 100 foster children and their families participated in this event.

### **RAP (Resources and People) Career Camp**

This camp is designed to inform students (ages 15-18) and educators about natural resource management and careers working with natural resources. The camp is one week long (June 18-24, 2000) and several agencies participate in the event including, KFRA, Winema NF, Modoc NF and various private organizations.

### **Forestry School Tour**

The event, held at the Clover Creek Environmental Education Area, is targeted at sixth graders from schools all over Klamath County. Children learn about forest products, reforestation, tree identification, soil and water conservation, fire, wildlife and outdoor recreation. It is a three-day event and about 80 students participate each day. There are a number of agencies that participate in this event, including BLM, USFWS, USFS, ODFW, ODF and several private and county groups. The event is sponsored by the OSU Extension Services office.

### **Celebrating Wildflowers Photo Contest**

This interagency event is sponsored by the BLM, USFS, NPS, USFWS and the Klamath Basin Chapter of the Native Plant Society of Oregon (NPSO). Each year a wide variety of photographs are submitted by amateur photographers. From stunning close-ups to beautiful panoramic views, this traveling display highlights native wildflowers across the west. The photographs are judged by a panel of local photography and wildflower enthusiasts from the public, and state and federal agencies. Prizes are awarded. Photographs of all the entries are displayed in the participating agency offices.

### **Wild Horse & Burro Adoption Program at the Klamath County Fair**

This successful event has been a mainstay at the Klamath County Fair for the past several years. In the past, tickets were free and the raffle was open to anyone who could meet all of the criteria of the BLM's Wild Horse and Burro Adoption Program. The last two years' horse adoption offered an exciting new element: the BLM, working in conjunction with the local 4H Equestrian Club, sold raffle tickets for \$5 each. The proceeds went toward a scholarship fund, which will be awarded to a local 4-H or FFA senior next year.

### **Fire Brochures**

The BLM fire program has created brochures, door hanger posters, and interpretive posters to inform the public about fire prevention, fire suppression and prescribed fire. These public information aids will be used to better inform publics living near the BLM's fuel project's sites, of the need for treatments. These brochures were distributed in FY 2000.

## **Public Lands Day**

On September 23, 2000 the Resource Area celebrated it's first recognition of National Public Lands Day. Twenty-four people from communities surrounding Gerber Reservoir plus 13 employees came to participate in tree planting, buck-and-pole fence building, and trash cleanup around Gerber Campground and Reservoir.



**Figure 16. Public Lands Day Tree Planting at Gerber Campground**



**Figure 17. Trash Cleanup During Public Lands Day**

## **Information Resource Management**

The ability to accomplish complex management of diverse resources over 215,000 acres requires enormous amounts of information. In order to accomplish this management in an efficient manner, the Klamath Falls Resource Area employs the most up to date electronic office and geographic information system (GIS) hardware and software. There have been several recent major accomplishments concerning information resource management.

There has been a significant continuing effort to upgrade software and hardware with the goal of simplifying work and increasing capability to accomplish complex analysis of large amounts of data. The Klamath Falls Resource Area goal is to place appropriate technology and training in the hands of employees and decision makers to increase efficiency and effectiveness.

### **Geographic Information System**

The BLM in western Oregon made a substantial investment in building a geographic information system (GIS) as it developed the resource management plans (RMPs). This information system has allowed the BLM to organize and standardize basic resource data across Oregon. The GIS has now become a day-to-day tool in resource management that allows display and analysis of complex resource issues in a fast and efficient manner. BLM is now actively updating and enhancing the resource data as conditions change and further field information is gathered. The GIS plays a fundamental role in ecosystem management and planning by allowing the BLM to track constantly changing conditions, analyze complex resource relationships, and take an organized approach for managing resource data.

### **Internet Web Site**

The Klamath Falls Resource Area is beginning to place information about the resource area on an Internet site at [www.or.blm.gov/Lakeview/](http://www.or.blm.gov/Lakeview/). Information on Plan Updates, Land Use Plans, Plan Amendments, Northwest Forest Plan Monitoring, Quarterly Project Reports, and individual specific resource disciplines, such as watershed and landscape analyses, recreation opportunities, riparian, wildlife, fisheries, grazing, wild horses, engineering, botany, forestry, fire, lands, cultural resources, law enforcement, and silviculture are, or soon will be on our web page.

## **Cadastral Survey**

The Oregon State BLM office provides cadastral support to the resource area. No cadastral surveys were done in FY 2000.

## **Law Enforcement**

The Klamath Falls Resource Area has a full time BLM Ranger along with the services of a Klamath County Deputy Sheriff (through a law enforcement agreement with Klamath County) for law enforcement duties. The Ranger works cooperatively with the Lakeview BLM District Ranger, Oregon State Police, Lake County Sheriff's Office, Lakeview and Klamath Falls Police Departments, National Park Service, and the U.S. Forest Service. Investigative support is provided by BLM Special Agents from the Oregon State Office.

Law enforcement efforts are focused on protecting natural resources and property while providing for public and employee safety. Educating the public in the safe and proper use of public lands is accomplished by patrol, investigation of criminal activity, issuance of verbal or written citations, and making arrests where appropriate.

There were 91 incidents and violations recorded in the Klamath Falls Resource Area in 2000 (see Table 34). These included employee harassment, theft of Federal property, forest products theft, vandalism to public or private property, Archaeological Resource Protection Act (ARPA) violations, weapons violations, search and rescue, human-caused wildfire, camping or day-use violations, vehicle abandonment and improper disposal of household trash. The table below summarizes the law enforcement activity within the Klamath Falls Resource Area since 1995. The increase in violations for 2000 is due to better law enforcement coverage of BLM lands and better reporting of incidents.

<b>Table 34. Law Enforcement Activity</b>			
<b>Fiscal Year</b>	<b>Incidents or Violations</b>	<b>Warnings Issued</b>	<b>Citations Issued</b>
<b>1995</b>	36	unknown	unknown
<b>1996</b>	42	unknown	unknown
<b>1997</b>	34	9	1
<b>1998</b>	33	22	2 arrests, 1 grand jury indictment
<b>1999</b>	66	50	2
<b>2000</b>	91	65	1

## National Environmental Policy Act Analysis and Documentation

### NEPA documentation

The review of the environmental effects of a proposed management action can occur in any of four ways: administrative determination, categorical exclusion, environmental assessment, or environmental impact statement.

An administrative determination is made when NEPA documentation previously prepared by the BLM fully covers a proposed action and no additional analysis is needed. This procedure is often used in conjunction with a plan conformance determination. If a proposed action is fully in conformance with actions specifically described in the RMP and analyzed in the RMP/FEIS, a plan conformance determination may be made and no additional analysis is needed. This determination is documented in a *“Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA)”*.

Some projects may qualify for a categorical exclusion from further NEPA documentation. Numerous types of projects have been determined that the nature and scope of the proposed activities do not individually or cumulatively have significant environmental effects on the environment. Specific categories of projects may therefore be exempt from requirements to prepare an environmental analysis. Categorical exclusions (CX) are covered specifically by Department of Interior and BLM guidelines.

An environmental assessment (EA) is prepared to assess the effects of actions that are not exempt from NEPA, are not categorically excluded, and are not covered by an existing environmental document. An EA is prepared to determine if a proposed action or alternative will significantly affect the quality of the human environment.

Major proposals that will significantly affect the environment, and that have not been previously analyzed through an environmental impact statement (EIS), require that an EIS be prepared.

### Klamath Falls Resource Area Environmental Documentation

During fiscal years 1995-1999, the Klamath Falls Resource Area completed 22 environmental assessments, 149 categorical exclusions, and 77 Plan conformance determinations. The environmental assessments vary in complexity, detail and length depending on the project involved.

In FY 2000, eleven categorical exclusions, 15 determinations of NEPA adequacy, and three environmental assessments were completed. The resource area is proposing to start an environmental impact statement for the Upper Klamath River ACEC and River Management Plan in FY 2001.



## Protests and Appeals

Only one protest has been received since the Klamath Falls Resource Area Management Plan Record of Decision was approved in 1995. This protest involved a proposed grazing use, and is still on hold, pending a final decision.

## Plan Maintenance

The Klamath Falls Resource Area Management Plan Record of Decision was approved in June of 1995. Since that time, the Klamath Falls Resource Area has implemented the plan across the entire spectrum of resources and land use allocations. As the plan is implemented it sometimes becomes necessary to make minor changes, refinements or clarifications of the plan. Potential minor changes, refinements or clarifications in the plan may take the form of maintenance actions.

Maintenance actions respond to minor data changes and incorporation of activity plans. This maintenance is limited to further refining or documenting a previously approved decision incorporated in the plan. Plan maintenance will not result in expansion of the scope of resource uses or restrictions or change the terms, conditions and decisions of the approved resource management plan. Maintenance actions are not considered a plan amendment and do not require the formal public involvement and interagency coordination process undertaken for plan amendments.

Important plan maintenance will be documented in the Klamath Falls Resource Area Planning Update and Annual Summary. Examples of possible plan maintenance issues that would involve clarification may include the level of accuracy of measurements needed to establish riparian reserve widths, measurement of coarse woody debris, etc. Much of this type of clarification or refinement involves issues that have been examined by the Regional Ecosystem Office and contained in subsequent instruction memos from the BLM Oregon State Office. Depending on the issue, not all plan maintenance issues will necessarily be reviewed and coordinated with the Regional Ecosystem Office or Provincial Advisory Committee. Plan maintenance is described in the Klamath Falls Resource Area Management Plan Record of Decision.

### Plan Maintenance for fiscal year 1995

- REO memorandum dated 10/13/94: Memo reviewing BLM's interpretation of Coarse Woody Debris requirements.
- REO Memorandum dated 3/22/95: Memo reviewing BLM site potential tree height determination.
- REO Memorandum dated 4/7/95: Clarifies access for key watersheds, how to meet S&G for no net increases in roads where third parties have access rights.
- REO Memorandum dated 7/5/95: Interagency memo exempting certain silvicultural activities from LSR assessment requirements.
- BLM IM OR-95-123, dated 7/5/95: Memo clarifying when watershed analysis is and is not required for activities in Riparian Reserves.
- REO Memorandum dated 7/24/95: Memo changing status of dwarf mistletoe in Table C-3 of the ROD.
- REO Memorandum dated 8/31/95: Memo on LSR boundary adjustments.

### Plan Maintenance for fiscal year 1996

- REO Memorandum dated 12/15/95: Memo clarifying REO review of LSR assessments.
- Memo on protocols for Survey & Manage amphibians (BLM IB-OR-96-006, dated 3/19/96).
- REO Memorandum dated 4/26/96: Additional Guidance on LSR assessment reviews.
- REO Memorandum dated 6/11/96: Memo changing provisions regarding management of the lynx.
- Memo implementing Regional Ecosystem Office memo on management of lynx (BLM IM-OR-96-97, dated 6/28/96)
- Memo on plan maintenance (OR IB-OR-96-294, dated 7/5/96)
- REO Memorandum dated 7/9/96: Memo exempting certain commercial thinning projects in LSRs and MLSAs from REO review.
- Internal Memorandum No. OR-96-108 (dated July 26, 1996) instructed the Klamath Falls Resource Area to remove Buxbaumia piperi, a moss that was erroneously listed as a species considered at risk in the Northwest Forest plan. This removal was deemed necessary B. piperi is not considered to be rare, therefore the standards and guidelines from the Northwest Forest Plan were applied in error.

- Memo on dwarf mistletoe (BLM IB-OR-95-443, dated 8/15/96)
- REO Memorandum dated 9/6/96: Draft memo limiting surveys for certain arthropods to southern range.
- REO Memorandum dated 9/30/96: Memo amending commercial thinning exemption in LSRs.

### Plan Maintenance for fiscal year 1997

- BLM IM-OR-97-007, dated 11/1/96: Interagency Memo clarifying implementation of S&M component 2 species; contains definitions of S&G terms such as “ground disturbing” and “implemented”.
- Memo directing changes in surveys for arthropods (BLM IB-OR-97-045, dated 11/8/96).
- Memo on implementing Coarse Woody Debris Standard & Guide (BLM IB-OR-96-064, dated 11/19/96).
- Memorandum dated November 8, 1996: Northwest Forest Plan Record of Decision (ROD). The sentence “Understory and forest gap herbivores” (page 61) was changed to be specific to the south range.
- Northwest Forest Plan, Adjustments in the Great Gray Owl (GGO) Survey Protocol. These adjustments were recommended by the Research and Monitoring Committee subsequent to findings and recommendations of a science panel. The six recommendations for the 1997 survey season were incorporated into the May 12, 1995 version of the protocol. In addition, habitat occupancy are to be located in habitat with the highest likelihood of supporting nesting Great Gray Owls. Methods, locations, and timing of habitat occupancy surveys are at the discretion of the resource area. Among the recommendations is one acknowledging that, using the onset of snowmelt to determine the start of the survey season, may not allow completion of all four visits prior to May 15. However, there should still be a good faith effort put forth to complete the four visits between March 15 and May 15, even if they go past the specified time period. A total of six visits is still required. In southwestern Oregon, some Great Gray Owls have been found below 3,000 feet elevation. Although not a requirement at this time, surveys below 3,000 feet (but otherwise according to protocol) will both assist in maintaining species viability and provide important data for evaluation of the GGO Record of Decision requirements. Field offices should assess which, if any, lower elevation locations would be priority areas to survey given the existing workload, staffing, and funding.
- In 1997, the Klamath Falls Resource Area developed some criteria to use to select the “16-25 large green trees per acre...” for retention in a harvest unit. As of 1997, the Klamath Falls Resource Area was still trying to determine which prescription/harvest unit this standard and guideline was intended for (Density Mgt, Regeneration Harvests, Commercial Thinnings, Patch Cut, etc.). (See 1999 Plan Maintenance for clarification).
- The 1997 APS stated: Klamath Falls Resource Area RMP, Timber Resources, Page 56, Unscheduled Harvests, 4<sup>th</sup> paragraph, “On the westside, retain 16 to 25 large green trees per acre in harvest units”. This plan maintenance clarifies that harvest units, prescription units, and treatment units are the same thing. For each prescription unit, stand exams will be conducted to determine existing stand structure. Unit reports will show, by species: basal area, crown closure, and the average number of trees per acre by diameter class. The number of snags and amount of coarse woody debris will also be determined. A prescription unit average of at least 16 green trees from the larger size classes present within the unit will be retained. Criteria for retention will be:
  - o **Species:** Tree species naturally adapted to the site, especially those species presently under-represented (usually ponderosa pine, Douglas-fir, and sugar pine).
  - o **Condition:** Vigorous trees and other trees in any condition having special habitat characteristics. This mix, will ideally supply overstory structure, as well as a variety of a snags and logs in a various decay classes over an extended time period.
  - o **Size:** Trees from the larger size classes of a given unit. (The size and density of trees vary tremendously, however. The largest trees in some units do not exceed 14 inches DBH; others have many trees over 30 inches DBH).

### Plan Maintenance for fiscal year 1998

- Guidance on Implementation of the 15 percent retention Standard & Guideline: Joint BLM/Forest Service final guidance, which incorporated the federal executives’ agreement, was issued on September 14, 1998, as BLM-Instruction Memorandum No. OR-98-100. The memorandum emphasizes terminology and intent related to the Standards and Guidelines, provides methods for completing the assessment for each fifth field watershed, dictates certain minimum documentation requirements, and established effective dates for implementation. This Instruction memorandum is adopted in its entirety as RMP clarification.
- Survey Protocols for Survey and Manage Species: Final protocols were issued during FY98 for Component 2 lichens, the fungus *Bridgeoporus nobillissimus*, terrestrial mollusks, and aquatic mollusks. These protocols are adopted in their entirety as RMP clarification.

- Environmental Justice: Executive Order 12898 of February 11, 1994: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations directs all federal agencies to “...make achieving environmental justice part of its mission by identifying and addressing...disproportionately high and adverse human health or environmental effects of its programs, policies and activities.”

New projects with possible effects on minority populations and/or low-income populations will incorporate an analysis of Environmental Justice impacts to ensure any disproportionately high and adverse human health or environmental effects are identified and reduced to acceptable levels, if possible.

Copies of the Executive Order, the accompanying Memorandum for the Heads of All Departments and Agencies, and Council on Environmental Quality Guidance on Environmental Justice issued February 1998 can be requested from the Klamath Falls BLM office.

## Plan Maintenance for fiscal year 1999

- An amendment to the RMP on Unintentional Encroachments and Survey Hiatuses was completed in FY 99. The plan amendment allowed a 1.62-acre tract of land to be moved from Land Tenure Zone 1 to Land Tenure Zone 3, which allows for sale. The amendment added the provision to the RMP Land Tenure Adjustment - Management Actions/Direction for All Land Use Allocations section:
- “Where survey hiatuses and unintentional encroachments on public lands are discovered in the future that meet disposal criteria, the lands may be automatically assigned to Zone 3 for disposal.”
- Correction of numerous errors or updates to Appendix H - “Grazing Management and Rangeland Program Summary” of the KFRA ROD/RMP (pages H-1 through H-77).
  - o Page H-5, Chase Mountain Allotment (0101); Page H-7, Edge Creek Allotment (0102) and Buck Mountain Allotment (0103); Page H10, Dixie Allotment (0107); Page H11, Dry Lake Allotment (0140); and H-13, Grubb Springs Allotment (0147). Under the “Constraints” sections, change “Weyerhaeuser Company” to “U.S. Timberlands, Inc.”. This reflects the 1986 change in ownership for all of these private, intermingled lands.
  - o Page H-26, JELD-WEN allotment (0824). Due to land exchanges, the “Public Acres” should be changed from 360 to 240. Also, the “Active Preference”, “Total Preference”, and “Total” under the “Grazing Administration Info (AUMs)” column should be changed from 36 to 24.
  - o Page H-32, *Kethcham* allotment (0835). Name should be spelled **Ketcham**.
  - o Page H-51, Campbell allotment (0878). “Suspended nonuse” should be 13 AUMs instead of 12; “Total Preference” should be 60 AUMs instead of 59.
  - o Page H-56, Dry Prairie allotment (0885). “Exchange of Use” AUMs should be changed from 275 AUMs to the “30 AUMs permanent AUMs, although the total number is variably higher depending on private land leases in the Dry Prairie pasture”.
  - o “Corrections of errors or updates to Klamath Falls Resource Area RMP Appendix H, Grazing Management.....”
  - o Page H-56, Dry Prairie allotment (0885). Under “Grazing Administration Info. (AUMs)” the “Active Preference” should be changed from 608 to 642 AUMs, and the “Suspended Nonuse” should be changed from 392 to 358 AUMs. This change reflects the transfer of state lands to public ownership in 1988 that was not previously reflected on the grazing permits.
- Additional information to the Grazing Management section of the ROD/RMP dealing with the recently implemented Standards for Rangeland Health.
  - o KFRA ROD/RMP, Page 62-63, “Grazing Management”, “Management Actions/Direction”, “General” section. The following should be added after the 5<sup>th</sup> paragraph (one on Standards and Guidelines): Recently (August 12, 1997), the “Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public lands Administered by the Bureau of Land Management in the States of Oregon and Washington” was implemented. This and related guidance requires that all grazing lands be assessed to see if the grazing use meets the 5 Standards for Rangeland Health. These standards address watershed function in uplands; watershed function in riparian areas; ecological processes; water quality; and native, threatened and endangered, and locally important species. This guidance will be effected in accordance with the KFRA’s “Plan for the Implementation of Standards and Guidelines” dated October 29, 1998 (available upon request).
- Additional support for the Appropriate Management Level (AML) of 30-50 head for the Pokegama Herd Management Area (HMA).

- o KFRA ROD/RMP, Page 64, “Wild Horse Management”, “Management Actions/Directions” section. Additional support information should be added after the second paragraph as follows:
  - o The Lakeview District Wild Horse Gather Environmental Assessment (OR-010-95-10) and the Topsy-Pokegama Landscape Analysis (July 1996) both affirmed that the wild horse herd should be kept within the 30-50 head AML as proposed in the ROD/RMP. This level is necessary to “...ensure a thriving natural ecological balance... and protect the range from deterioration associated with overpopulation” as stated in this plans objectives for Wild Horse Management and required by the Wild Free-Roaming Horse and Burro Act of 1971. 20 head were removed from the HMA in 1996 in order to get the herd number down within the AML.
- \$ Klamath Falls Resource Management Plan, Appendix K, Water and Soils, Page K-8, Implementation Monitoring Question #12 is not stated correctly. Add the word “coordinated” before the word “watershed-based”. Thus, the first part of the question should read: “What is the status of cooperation with other agencies in the development of coordinated watershed-based Research Management Plans and other cooperative agreements to meet Aquatic Conservation Strategy Objectives?”
- \$ In the RMP dated June 1995, The section on energy and minerals refers to restrictions listed in appendix “G” located in volume II of the Final KFRA RMP & EIS. **This should refer to appendix “K” in Volume II.**
- \$ Appendix “G”, pages 12-13 in the Final KFRA RMP/ROD, dated September 1994, failed to give exact distant measurement for the buffers associated with the timing limitations for bald and golden eagles, osprey and sage grouse leks. **The sentence should read** “ Surface occupancy and use is prohibited . . . , within **1/4** mile of known . . . sites.
- \$ Appendix G, KFRA/ROD, pages 12 and 13 **Add:** Timing Limitation, Resource: Wildlife - Northern Spotted Owl, Stipulation: Surface occupancy and use is prohibited from March 1 to August 15, within 1/4 mile of known Northern Spotted Owl nest sites and nesting habitat.
- \$ In same document and same appendix on page G-15, the controlled surface use for the Upper Klamath River - segment 2 should also state “**1/4**” mile.
- \$ Change in specific provisions regarding management of the great gray owl. The NFP Record of Decision page C-21; Klamath Falls Resource Area RMP Record of Decision pages 39 & 40.

The NFP states the following with regard to management: “Specific mitigation measures for the great gray owl, within the range of the northern spotted owl, include the following: provide a no-harvest buffer of 300 feet around meadows and natural openings.....”

For the Topsy/Pokegama Landscape Analysis Area, the Klamath Falls Resource Area wrote a Late Successional Reserve Assessment (LSRA) which addressed a variety of habitat manipulations for the long-term enhancement of great gray owl nesting habitat within the 300-foot buffers required around meadows and natural openings. These habitat manipulations were proposed in areas where the following conditions are present: 1) marginally suitable as great gray owl habitat, 2) at risk of decline to the point where suitable nesting habitat conditions are unattainable in the long-term, and 3) at risk due to poor forest health conditions including high fuel loads and/or overstocking.

As a result of discussions in 1999 between members of the Regional Ecosystem Office Team and the Klamath Falls Resource Area Staff, meadows and natural openings would be buffered only in cases where it has been determined the area is “occupied” by great gray owls. Occupancy is defined in the May 12, 1995, great gray owl survey protocol. Forested areas adjacent to meadows and natural openings would receive 300-foot buffers within approximately two miles from activity centers of sites occupied by great gray owls.

A Memorandum from the Executive Director to the State Director dated August 4, 1999, served as documentation of the Regional Ecosystem Office’s (REO) review of the Late Successional Reserve Assessment and finding that the LSRA provides a sufficient framework and context for future management activities within the 300-foot meadow buffers in the Topsy/Pokegama Landscape Analysis Area.

- \$ On pages 23, 33 & 56 of the KFRA RMP, for westside Matrix lands, Management Actions / Directions states:  
*“Retain 16 to 25 large green trees per acre where available.”*  
 To be consistent with the Medford RMP, Chapter 2-21, the KFRA will change the wording in the KFRA RMP to read:  
*“Retain at least 16 to 25 large<sup>1</sup> green trees per acre in regeneration harvest units.”*

**Rationale for change:**

The proposed change will help clarify when the KFRA must meet the 16-25 standard and guide (S&G). It was noted during the 3<sup>rd</sup> year evaluation that there was a difference in the wording and subsequent interpretation between the Medford District and the KFRA RMPs relating to this S&G. The Medford District applies this S&G to regeneration harvest units only. The word “regeneration” was left out of the KFRA RMP. Subsequently, KFRA personnel interpreted this S&G to be applied to all types of harvest units including density management harvests. The KFRA has completed 4 density management harvests to date and post-treatment stand exam data indicates that over 200 trees per acre are being retained including the larger and more vigorous trees. BLM Managers feel that this S&G is not applicable nor was it intended for density management harvests and should only be applied to regeneration harvest units as defined in the Medford RMP. Presently, the KFRA has not implemented any regeneration harvests. The 16 to 25 tree S&G in regeneration harvest units should be sufficient to meet the intended objectives of structural retention for both a legacy component as well as serve as a shelterwood for the understory component. In addition, this change will align with how these stands were initially modeled.

\$ On pages 23, of the KFRA RMP, for westside Matrix lands, Management Actions / Directions states:

*“When an area is regeneration harvested, limit patch size to 3 acres.”*

The above sentence erroneously includes the word “regeneration” where “density management” was intended. The KFRA will modify the patch cut size limit from 3 acres to 5 acres. The limit on patch cuts to 15% or less of the density management harvest area, which was intended, and was used in modeling, was not mentioned in the RMP. Therefore, the correct wording for this maintenance should be modified to read:

*“Patch cuts within a density management unit are limited to 5 acres in size and to no more than 15% of the density management treatment area.”*

**Rationale for Change:**

A clarification is needed between patch cuts and regeneration harvests. Patch cuts are small openings in relatively large density management units. The primary objective of cutting small patches/openings is to regenerate under-represented species in the stand; normally pines and Douglas-fir. Due to past harvesting practices and fire suppression, the species composition of stands has trended from shade intolerant species (pines and Douglas-fir) towards stands dominated by tolerant species (white fir). On page E-10 (Appendix E) of the RMP, Table E-1 lists the “Desired Species Composition (by percent conifer basal area)” for the South General Forest Management Area (SGFMA). The RMP states on page E-10 that the KFRA is to “Manage so that trees species over time trend toward ...” these composition levels. One of primary reasons for this objective is to improve the resiliency of the stands to natural disturbances (insects, disease, and fire). The small patch cuts are one of the prescriptions the KFRA is using to meet the species composition objective.

The amount of patch cuts that can be implemented in a density management unit is not changing. The limit, as modeled, has always been and will remain up to 15% of the unit. However, because the 15% limit has never been documented, it was necessary to add that statement as well. The size is increasing from 3 acres to 5 acres to insure that sufficient sunlight is reaching the younger seedlings and is not impacted by the shade from the patch cut edge. To date, approximately 72 acres (2.3%) of 3072 acres of density management treatments have received patch cuts.

\$ **Clarification of What a Regeneration Harvest is and The Constraints Involved When Implementing.**

A regeneration harvest is a silvicultural system discussed in a number of places in the RMP. The partial objective of regeneration harvests (See Glossary, page 6-14, Vol. 1 of the FEIS) is to open “a forest stand to the point where favored tree species will be reestablished.” There are two constraints to regeneration harvests. The first is mentioned in Appendix E, page E-10 of the RMP that states, “Regeneration harvests would not be programmed for stands under 120 years of age and generally would not be programmed for stands under 150 years of age within the next decade unless required by deteriorating stand condition, disease, or other factors that threaten the integrity of the stand.” The second constraint relates to the Plan Maintenance items mentioned above that states; retain at least 16 to 25 large green trees per acre in regeneration harvest units. The KFRA projected 131 acres of regeneration

harvests on the westside and 33 acres on the eastside. To date, no regeneration harvests have been implemented due to placing priority on mortality salvage sales.

#### **\$ Clarification of Snag Classification**

During a timber sale review in KFRA in fiscal year 1999, the initial post-treatment stand exam data indicated that not enough Class 1 & 2 snags were retained. The stand exam data was surprising because many snags were intentionally marked for removal as required in the silvicultural prescription due to an already abundant down fuels load and snags at the time of marking. A review of the post-treatment stand exam data revealed that a snag was only classified as Class 1 or 2 if it had just died and/or still had red needles on it (1-2 years old). All other snags were classified as Class 3, 4, or 5. The KFRA determined that it needed a standardized format for classifying snags. The BLM Forest Survey Handbook, BLM Manual Supplement 5250-1, pages IV-10 to IV-12 was reviewed to determine if it was sufficient for classifying snags. The handbook provides both pictures and descriptions of the different snag categories. The KFRA concluded that the handbook would be sufficient for classifying snags for future monitoring purposes.

#### **Plan Maintenance for fiscal year 2000**

- **Page I-7, KFRA RMP, Appendix I - Land Tenure,**

**Delete:** Remove the following lands from Land Tenure Zone 3 and place them into Land Tenure Zone 1.

T.36 S., R.15 E. W.M.; Sec. 28 (all); Sec. 32 (all).

**Rational for Change:** The presence of the endangered species, cinder pit, and wetlands associated with Campbell Reservoir on the public lands preclude the BLM from making the finding that the resource values on the federal land are less than the resource values of the private land.

- **Page # C-44, Last Paragraph, Line # 2 (Also found on other pages) of Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning documents Within the Range of the Northern Spotted Owl Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl.**

**"Provide for retention of old-growth fragments in watersheds where little remains."**

"Landscape areas where little late-successional forest persists should be managed to retain late-successional patches. This standard will be applied to fifth field watersheds (20-200 square miles) in which federal forest lands are currently comprised of 15 percent or less late-successional forest."

- **Pages 51-52, KFRA RMP, Off-Highway Vehicles**

**Add:**

- o To allow off-highway vehicles to use BLM/Klamath Falls Resource Area roads when weather conditions are such that damage to roads will not occur, or to use roads that will not impact threatened, endangered, or sensitive plant, animal, or fish species.
- o To prevent off-highway vehicles from using BLM/Klamath Falls Resource Area roads by extending the seasonal closure when weather conditions are such that damage to roads will occur, or to prevent use of roads that will impact threatened, endangered or sensitive plant, animal, or fish species.

Before either scenario is implemented, the proposal must be reviewed by the Klamath Falls Resource Area Interdisciplinary Team (ID Team). The ID Team will make a recommendation to the Klamath Falls Field Manager to open the road or to extend the closure. The Field Manager will consider the ID Team's recommendation and make a decision on that recommendation.

A decision to extend the closure must be accompanied by publishing a Notice of Emergency Closure in the Federal Register according to the regulations found at 43 CFR 8364.1.

**Rational for Change:** The Plan Maintenance provides a mechanism to close a road prior to November 1<sup>st</sup> or to extend the closure past April 15<sup>th</sup>, if conditions warrant it. The same mechanism would be used to delay closing a road past the November 1<sup>st</sup> date or to open a road prior to April 15, if conditions warrant it.



**Figure 18. Topsy Road, Along Klamath River Canyon, is Popular with OHV users**





# **KLAMATH FALLS RESOURCE AREA**

## **RESOURCE MANAGEMENT PLAN**

### **MONITORING REPORT**

**Fiscal Year 2000**



# **KLAMATH FALLS RESOURCE AREA**

## **RESOURCE MANAGEMENT PLAN**

### **MONITORING REPORT**

**Fiscal Year 2000**

#### **Fiscal Year 1996-1999 Monitoring Summary**

This document represents the fifth monitoring report of the Klamath Falls Resource Area Resource Management Plan for which the Record of Decision was signed in June 1995. This monitoring report compiles the results and findings of implementation monitoring of the five full fiscal years of implementation of the RMP, fiscal years 1996-2000. This report does not include the monitoring conducted by the Klamath Falls Resource Area that is identified in activity or project plans. Monitoring at multiple levels and scales, along with coordination with other BLM and Forest Service units, has been initiated through the Regional Interagency Executive Committee (RIEC).

The Resource Management Plan monitoring effort for Fiscal Years 1996-1999 addressed the 88 implementation questions relating to the 21 land use allocations and resource programs contained in the Monitoring Plan. There are 54 effectiveness and validation questions included in the Monitoring Plan. The effectiveness and validation questions were not addressed because some time is required to elapse after management actions are implemented in order to evaluate results that would provide answers.

#### **Findings**

Monitoring results found full compliance with management action/direction in 21 of the 21 land use allocations and resource programs identified for monitoring in the plan. Monitoring results found full compliance in 87 of the 88 implementation monitoring questions contained in the plan.

One preliminary finding relating to Water and Soils found one discrepancy with soil compaction exceeding regional standards when mechanical equipment is used. Further monitoring of mechanical equipment use is needed to test this preliminary finding. The resource area intends to monitor future timber sales and other soil disturbing activities using quantitative methods, in order to accumulate more data from which conclusive findings about the extent and degree of soil compaction associated with use of mechanical equipment can be made.

#### **Recommendations**

No implementation or management adjustments are recommended, as Fiscal Year 1996-2000 monitoring results indicate very high compliance with management action/direction.

#### **Conclusions**

Analysis of the Fiscal Years 1996-1999 monitoring results concludes that the Klamath Falls Resource Area has almost 100% compliance with management action/direction, and therefore no major changes in management direction or resource Management Plan implementation is warranted at this time. The results indicate a continuing conscientious implementation of the plan by informed and knowledgeable staff and managers.

# Fiscal Year 2000 Monitoring Report

## Introduction

The information following represents the fifth monitoring report of the Klamath Falls Resource Area Resource Management Plan for which the Record of Decision was signed in June 1995. This monitoring report compiles the results and findings of implementation monitoring of the fifth full fiscal year of implementation of the RMP, fiscal year 2000. Tables 35 and 36 provide a summary of the projects monitored and the selection categories respectively.

This report does not include the monitoring conducted by the Klamath Falls Resource Area that is identified in activity or project plans. Monitoring at multiple levels and scales along with coordination with other BLM and Forest Service units has been initiated through the Regional Interagency Executive Committee (RIEC).

<b>Table 35. Summary of Numbers and Types of Projects Monitored – FY 2000</b>	
<b>Project Type</b>	<b>Number &amp; Type Projects Monitored</b>
<b>Timber Sales</b>	1 – Stukel Mtn. Timber Sale; started on Grenada East Timber Sale.
<b>Silviculture Projects</b>	9 - Bear Valley Wildlife Refuge: Using silvicultural techniques to improve nesting and roosting habitat for bald eagles; Forest Development Projects: restoration thinning, precommercial thinning, Oak woodland thinning, pruning, site preparation, tree planting, reforestation surveys, maintenance/protection of stands.
<b>Fish Habitat Projects</b>	6 - Wood River Wetland Suckers and Redband Trout, Gerber Reservoir Suckers, Dry Prairie, Horsefly, and Pitchlog Grazing Allotments for suckers.
<b>Riparian Habitat Projects</b>	3 - Clover Creek Restoration, Barnes Valley Low Water Crossing, Stukel Mtn. Timber Sale Riparian Reserve Monitoring.
<b>Wetland Restoration Project</b>	1 - Wood River Wetland.
<b>Wildlife Habitat Projects</b>	20- Wood River Wetland: Yellow rails, spotted frogs, sandhill cranes, bald eagles, and neotropical birds; Muddy Tom Timber Sale: Great gray owl meadow buffers and spotted owls; Hayden Creek: Spotted owl territory; Gerber Reservoir: Bald eagle; Northern spotted owl historic nesting sites; bald eagle aerial and ground surveys and mid-winter counts; Canada Lynx and Forest carnivore monitoring; Great gray owl monitoring prior to ground-disturbing activities; Muddy Tom and Clover Hook-up: Survey and Manage terrestrial mollusk surveys; known Northern Goshawk site monitoring; Survey and Manage species (lichen, fungi, bryophytes, and vascular plants) are being surveyed until final SEIS is completed; Bear Valley Wildlife Refuge: BLM & USFWS cooperating to improve bald eagle roosting and nesting habitat; Peregrine falcon habitat monitoring for the Lakeview District; Fourteen bald eagle nest territories and three roost areas monitored in cooperation with Oregon State University, Oregon Eagle Foundation, U.S. Timberlands, and Weyerhaeuser Corp.; Townsend's Big-eared bat monitoring on the Klamath River;
<b>Prescribed Burns</b>	5 Prescribed Burns
<b>Construction</b>	2 - Topsy Campground Paving, Gerber Reservoir Recreation Site
<b>Grazing Projects</b>	20 existing improvements (fences, spring improvements) 25 grazing allotments 1 newly constructed fence 1 new waterhole
<b>Water &amp; Soil Projects</b>	3 - Clover Creek Restoration, Barnes Valley Low Water Crossing, Stukel Mtn. Timber Sale Riparian Reserve Monitoring.
<b>Juniper Projects</b>	3 - Lorella, Lower Swan, Bumpheads

<b>Table 36. FY 2000 Implementation Monitoring Selection Categories</b>			
<b>Selection Categories</b>	<b>FY 2000 Projects</b>	<b>FY 2000 Projects Monitored</b>	<b>Percent Monitored</b>
Ground-Disturbing Activities (other than timber sales)	5	5	100%
Grazing Allotments	95*	25**	26%***
Projects in Riparian Reserves	3	1	33%
Removing Structures within Riparian Reserves	2	2	100%
Projects in Late Successional Reserves	0	0	0
Timber Sales in Watersheds With Less Than 15% Late Successional Forest	0	0	0
Timber Sales	2	1	50%
Juniper Projects	5	3	60%
Projects Within or Adjacent to Special Areas	1	1	100%
Projects That Include or are Adjacent to Special Habitats	1	1	100%
Projects in VRM II or III Areas	5	5	100%
Projects Within or Adjacent to Wild & Scenic River Corridors	0	0	0
Projects in Rural Interface (prescribed fire)	0	0	0
Noxious Weed Project (sites)	215	200	93%
Prescribed Burn Projects	18	18	100%
Projects That Required Dust Abatement	0	0	0
<p>Note: Minimum monitoring requirements in each listed category is 20%. The district exceeded the minimums in numerous categories, primarily due to overlapping applicability (many projects meet several criteria in above table).</p> <p>*The KFRA has 95 allotments with grazing currently authorized under the RMP. Of these, 15 were in non-use in FY 1999.</p> <p>** Includes one or more of the following monitoring studies: utilization, use supervision, condition, trend, actual use, range/riparian studies.</p> <p>***The 25 allotments are only 26% of the KFRA's total allotments, however, they comprise approximately 70% of the KFRA grazing land base.</p>			

## **All Land Use Allocations** (RMP/ROD, Appendix K, page K-1)

### **Expected Future Conditions and Outputs**

- Protection of SEIS special attention species so as not to elevate their status to any higher level of concern.

## Implementation Monitoring

**Monitoring Question 1:** Are surveys for the species listed in Appendix E (RMP/EIS) conducted before ground-disturbing activities occur?

**Monitoring Requirement:** At least 20 percent of all ground-disturbing management actions will be examined prior to project initiation and re-examined following project completion, to determine if surveys are conducted for species listed in Appendix E, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix E are protected.

**Monitoring Performed:** Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin.

### Findings (for Muddy Tom timber sale):

#### Animals

##### *Great Gray Owl*

Surveys were conducted throughout the Muddy Tom Area. Four different routes were surveyed to protocol. Even though great gray owls have been observed in the area the past two years no nest sites have been located.

##### *Mollusks*

##### Terrestrial

Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband) may occur within the resource area. In FY 1999, pre-disturbance surveys for terrestrial mollusks were conducted to existing survey protocols (Survey Protocol For Terrestrial Mollusk Species From The Northwest Forest Plan Draft Version 2.0 10/97) on 2,200 acres of public land within the Muddy Tom timber sale and adjacent reserve areas.

The majority of Survey and Manage mollusk site locations were captured with a Global Positioning System (GPS), and entered into the regional corporate database for S&M, referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

##### Aquatic

Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. There is no potential habitat within the Muddy Tom timber sale for aquatic mollusks.

#### Plants

Surveys for special status and special attention species are being conducted prior to ground disturbing activities. Spring and fall Survey and Manage (S&M) fungi surveys were conducted to existing protocols (Survey Protocols for Seven Protection Buffer Fungi Version 1.3) in the Muddy Tom TS, which totals approximately 2,200 acres. Bryophyte surveys were conducted in potential habitat within this project area in FY 1999. Klamath Falls Resource Area has no potential habitat for any S&M Component 1 and 2 lichens (species which require pre-disturbance surveys), therefore no lichen surveys were conducted.

### *Fungi*

As a result of FY 2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Muddy Tom T.S., Riparian Reserves, and neighboring District Designated Reserves (DDRs). The NFP classifies S&M species into five categories: Component 1,2,3,4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Muddy Tom timber sale: Component 1 = 11 sites; Component 2 = 0 sites; Component 3 = 489 sites; Component 4 = 378 sites; Protection Buffer = 0 sites.

The majority of Survey and Manage site locations were flagged and captured with GPS and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

### *Bryophytes*

The bryophyte surveys revealed no S&M or Protection Buffer liverwort or moss species within the project area. Other non S&M bryophyte species were found and documented within the project area. Some workers kept a species list of bryophytes; these specimens were either identified in the field or collected and later identified.

### *Lichens*

Although two species of S&M Component 4 lichens are known to occur on the resource area, none were found within the project areas.

**Conclusions (for Muddy Tom timber sale):** Required surveys and management actions for the species listed in Appendix E are being implemented.

### **Findings (for Clover Hook-up timber sale):**

#### **Animals**

##### *Great Gray Owl*

No surveys were needed for this species in this area.

### *Mollusks*

#### Terrestrial

Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband)) may occur within the resource area. In FY 1999, pre- disturbance surveys for terrestrial mollusks were conducted to existing survey protocols (Survey Protocol For Terrestrial Mollusk Species From The Northwest Forest Plan Draft Version 2.010/97) on 1,000 acres of public land within the Clover Hook-up timber sale and adjacent reserve areas.

The majority of Survey and Manage mollusk site locations were captured with GPS and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

### Aquatic

Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. There is no potential habitat within the Clover Hook-up timber sale for aquatic mollusks.

### **Plants**

Surveys for special status and special attention species are being conducted prior to ground disturbing activities. Spring and fall Survey and Manage (S&M) fungi surveys were conducted to existing protocols (Survey Protocols for Seven Protection Buffer Fungi Version 1.3) in the Clover Hook-up T.S. and neighboring District Designated Reserves which totals approximately 1,000 acres. Bryophyte surveys were conducted in potential habitat within this project area in FY 1999. Klamath Falls Resource Area has no potential habitat for any S&M Component 1 and 2 lichens (species which require pre-disturbance surveys), therefore no lichen surveys were conducted.

### *Fungi*

As a result of FY 2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Clover Hook-up TS and neighboring District Designated Reserves (DDR's). The NFP classifies an S&M species into five categories: Component 1,2,3,4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Clover Hook-up timber sale. Component 1 = 9 sites; Component 2 = 0 sites; Component 3 = 304 sites; Component 4 = 207 sites; Protection Buffer = 0 sites.

The majority of Survey and Manage site locations were flagged and captured with GPS, and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

### *Bryophytes*

The bryophyte surveys revealed no S&M or Protection Buffer liverwort or moss species within the project area. Other non S&M bryophyte species were found and documented within the project areas. Some workers kept a species list of bryophytes, these specimens were either identified in the field or collected and later identified.

### *Lichens*

Although two species of S&M Component 4 lichens are known to occur in the resource area, none were found within the project areas.

**Conclusions (for Clover Hook-up timber sale):** Required surveys and management actions for the species listed in Appendix E are being implemented.

### **Findings (for Surveyor Mountain timber sale):**

#### **Animals**

##### *Great Gray Owl*

Surveys were conducted throughout the Surveyor Mtn. Area. Four different routes were surveyed to protocol. No nest sites or owls have been located.

##### *Lynx*

Bait stations were placed in the Surveyor Mtn Area in 1999 and 2000. No lynx were observed, however pine martin and bobcat were documented.



## *Mollusks*

### Terrestrial

Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband)) may occur within the resource area. In FY 2000, pre-disturbance surveys for terrestrial mollusks were conducted to existing survey protocols (Survey Protocol For Terrestrial Mollusk Species From The Northwest Forest Plan Draft Version 2.010/97) on 600 acres of public land within the Surveyor Mountain timber sale and adjacent reserve areas.

The majority of Survey and Manage mollusk site locations were captured with GPS, and entered into the regional corporate database for S&M referred to as ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

### Aquatic

Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. There is no potential habitat within the Surveyor Mountain timber sale for aquatic mollusks.

## **Plants**

Surveys for special status and special attention species are being conducted prior to ground disturbing activities. Spring and fall Survey and Manage (S&M) fungi surveys were conducted to existing protocols (Survey Protocols for Seven Protection Buffer Fungi Version 1.3) in the Surveyor Mountain timber sale which totals approximately 600 acres. Bryophyte surveys were conducted in potential habitat within this project during FY 2000. Klamath Falls Resource Area has no potential habitat for any S&M Component 1 and 2 lichens (species which require pre-disturbance surveys), therefore no lichen surveys were conducted.

## *Fungi*

As a result of FY 2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Surveyor Mountain timber sale. The NFP classifies an S&M species into five categories: Component 1,2,3,4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Surveyor Mountain timber sale. Component 1 = 13 sites; Component 2 = 1 site; Component 3 = 251 sites; Component 4 = 155 sites; Protection Buffer = 1 site.

The majority of Survey and Manage site locations were flagged and captured with GPS, and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites will be revisited prior to timber sale activities and a 60-foot radius buffer established to protect the site from ground disturbing activities associated with timber harvest activities.

## *Bryophytes*

The bryophyte surveys revealed no S&M or Protection Buffer liverwort or moss species within the project area. Other non S&M bryophyte species were found and documented within the project areas. Some workers kept a species list of bryophytes, these specimens were either identified in the field or collected and later identified.

### *Lichens*

Although two species of S&M Component 4 lichens are known to occur on the resource area, none were found within the project areas.

**Conclusions (for Surveyor Mountain timber sale):** Required surveys and management actions for the species listed in Appendix E are being implemented.

### **Findings (for Spencer Creek riparian hand thin):**

#### **Animals**

##### *Great Gray Owl*

No surveys were needed for this species in this area.

#### *Mollusks*

##### Terrestrial

Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband)) may occur within the resource area. In FY 2000, pre-disturbance surveys for terrestrial mollusks were conducted to existing survey protocols (Survey Protocol For Terrestrial Mollusk Species From The Northwest Forest Plan Draft Version 2.010/97) on 120 acres of public land within the Spencer Creek riparian hand thin.

The majority of Survey and Manage mollusk site locations were captured with a GPS, and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite. One site of *P. coeruleum* was recorded for the Spencer Creek riparian hand thin.

##### Aquatic

Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. Surveys for aquatic mollusks were conducted on approximately two acres of potential habitat within the Spencer Creek riparian hand thin. No S&M aquatic mollusk species were found. Pre-disturbance surveys for S&M aquatic mollusks will continue for all potential ground disturbing activities that may impact aquatic mollusks. Current management recommendations for aquatic mollusk species (Management Recommendations for Survey and Manage Aquatic Mollusks Version 2.0) will be administered.

#### **Plants**

Surveys for special status and special attention species are being conducted prior to ground disturbing activities. Spring and fall Survey and Manage (S&M) fungi surveys were conducted to existing protocols (Survey Protocols for Seven Protection Buffer Fungi Version 1.3) in the Spencer Creek riparian hand thin which totals approximately 120 acres. Bryophyte surveys were conducted in potential habitat within this project area in FY 2000. Klamath Falls Resource Area has no potential habitat for any S&M Component 1 and 2 lichens (species which require pre-disturbance surveys), therefore no lichen surveys were conducted.

#### *Fungi*

As a result of FY 2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Spencer Creek riparian hand thin. The NFP classifies an S&M species into five categories: Component 1,2,3,4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Spencer Creek riparian hand thin. Component 1 = 8 sites; Component 2 = 0 sites; Component 3 = 143 sites; Component 4 = 52 sites; Protection Buffer = 1 site.

The majority of Survey and Manage site locations were flagged and captured with GPS and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

#### *Bryophytes*

The bryophyte surveys revealed no S&M or Protection Buffer liverwort or moss species within the project area. Other non S&M bryophyte species were found and documented within the project areas. Some workers kept a species list of bryophytes; these specimens were either identified in the field or collected and later identified.

#### *Lichens*

Although two species of S&M Component 4 lichens are known to occur on the resource area, none were found within the project areas.

**Conclusions (for Spencer Creek riparian hand thin):** Required surveys and management actions for the species listed in Appendix E are being implemented.

**Monitoring Question 2:** Are protection buffers being provided for specific rare and locally endemic species and other species in the upland forest matrix?

**Monitoring Requirement:** At least 20 percent of all ground-disturbing management actions will be examined prior to project initiation and re-examined following project completion, to determine if surveys are conducted for species listed in Appendix E, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix E are protected.

**Monitoring Performed:** Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin.

#### **Findings (for Muddy Tom timber sale):**

##### **Animals**

##### *Great Gray Owl*

Surveys were conducted throughout the Muddy Tom Area. Four different routes were surveyed to protocol. Even though great gray owls have been observed in the area the past two years no nest sites have been located. Buffers were established before the sale was marked. BLM biologists helped in the layout and marking phase of the sale preparation.

##### *White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

No surveys were conducted for these species. If these species were observed incidentally they were recorded in BLM database. Additional snags were retained for these species as per RMP recommendation.

##### *Mollusks*

One S&M mollusk species was located within this sale (see question 1). Designated District Reserves (DDRs), Riparian Reserves, and thermal clumps are all serving as protection buffers for this species.

##### **Plants**

The following are the number of sites for each Component and Protection Buffer fungi documented for the Muddy Tom timber sale. Component 1 = 11 sites; Component 2 = 0 sites; Component 3 = 489 sites; Component 4 = 378 sites; Protection Buffer = 0 sites. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

**Conclusions (for Muddy Tom timber sale):** The required management actions for specific rare, and locally endemic, species, and other species in the upland forest matrix, is being implemented.

**Findings (for Clover Hook-up timber sale):**

**Animals**

*Great Gray Owl*

No surveys were needed for this species in this area.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

No surveys were conducted for these species. If these species were observed incidentally they were recorded in BLM data base. Additional snags were retained for these species as per RMP recommendation.

*Mollusks*

No S&M mollusk species were located within the Clover Hook-up sale area.

**Plants**

The following are the number of sites for each Component and Protection Buffer fungi documented for the Clover Hook-up timber sale. Component 1 = 9 sites; Component 2 = 0 sites; Component 3 = 304 sites; Component 4 = 207 sites; Protection Buffer = 0 sites. 60-foot radius buffers were established around all Component 1 and High Priority S&M fungi to protect the site from ground disturbing activities associated with timber harvest activities. Thermal clumps were delineated, marked in the field, and located using a GPS unit in order to buffer the S&M Strategy 1 & 2 vascular plant species *Cypripedium montanum* (mountain lady-slipper).

**Post-project Monitoring:** This timber sale has not been harvested.

**Conclusions (for Clover Hook-up timber sale):** The required management actions for specific rare and locally endemic species, and other species in the upland forest matrix, is being implemented.

**Findings (for Surveyor Mountain timber sale):**

**Animals**

*Great Gray Owl*

Surveys were conducted throughout the Surveyor Mtn. Area. Four different routes were surveyed to protocol. No nest sites or owls have been located therefore no buffers were needed.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

No surveys were conducted for these species. If these species were observed incidentally they were recorded in BLM data base. Additional snags were retained for these species as per RMP recommendation.

*Mollusks*

One S&M mollusk species was located within this sale (see question 1).

**Plants**

The following are the number of sites for each Component and Protection Buffer fungi documented for the Surveyor Mountain timber sale. Component 1, 13 sites; Component 2, 1 site; Component 3, 251 sites; Component 4, 155 sites; Protection Buffer, 1 site. All Component 1, Protection Buffer, and High Priority Sites will be revisited prior to timber sale activities and a 60-foot radius buffer established to protect the site from ground disturbing activities associated with timber harvest activities.

**Conclusions (for Surveyor Mountain timber sale):** The required management actions for specific rare and locally endemic species, and other species in the upland forest matrix are being implemented.

**Findings (for Spencer Creek riparian hand thin):**

**Animals**

*Great Gray Owl*

No surveys were needed for this species in this area.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

No surveys were conducted for these species. If these species were observed incidentally they were recorded in BLM data base. Additional snags were retained for these species as per RMP recommendation.

#### *Mollusks*

One S&M mollusk species was located within this project area (see question 1). The one known site of the S&M mollusk *Prophysaon coeruleum* discovered within this project area was flagged and captured with GPS, and entered into ISMS. This site was revisited prior to hand thinning activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities that may be associated with this project.

#### **Plants**

The following are the number of sites for each Component and Protection Buffer fungi documented for the Spencer Creek riparian hand thin. Component 1 = 8 sites; Component 2 = 0 sites; Component 3 = 143 sites; Component 4 = 52 sites; Protection Buffer = 1 site. All Component 1 Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

**Conclusions (for Spencer Creek riparian hand thin):** The required management actions for specific rare and locally endemic species, and other species in the upland forest matrix, are being implemented.

**Monitoring Question 3:** Are the known sites of amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropod species listed in Appendix E being protected?

**Monitoring Requirement:** At least 20 percent of all ground-disturbing management actions will be examined prior to project initiation and re-examined following project completion, to determine if surveys are conducted for species listed in Appendix E, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix E are protected.

**Monitoring Performed:** Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin.

**Findings (for Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin):** Refer also to Questions 1 and 2 above.

#### **Animals**

##### *Mollusks*

There were no known terrestrial mollusk sites prior to on the ground surveys. See answers to questions 1 and 2. There are three known sites for aquatic mollusks on the resource area, but they are not located within any project area.

##### *Mammals*

There are no known sites of the lynx or red tree vole.

#### **Plants**

No known sites of S&M plant species were listed in the known site database for the Klamath Falls Resource Area previous to on-the-ground surveys. See answers to questions 1 and 2 for sites detected during pre-disturbance surveys.

**Post-project Monitoring:** See answer to question 2.

**Conclusions:** There were no known sites of terrestrial mollusks, bryophytes, vascular plants, fungi, and lichen species listed in Appendix E previous to on-the-ground surveys in the resource area. Known sites of aquatic mollusks are not within any project area. Populations found during surveys become known sites when they are detected. The required management actions for these species are being implemented.

**Monitoring Question 4:** Are the known sites of amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropod species listed in Appendix E of the RMP being surveyed?

**Monitoring Requirement:** At least 20 percent of all ground-disturbing management actions will be examined prior to project initiation and re-examined following project completion, to determine if surveys are conducted for species

listed in Appendix E, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix E are protected.

**Monitoring Performed:** Project Reviews.

**Findings (for Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin):** See also answers to questions 1 and 2.

**Animals**

*Mollusks*

There were no known terrestrial mollusk sites prior to on the ground surveys. There are three known sites for aquatic mollusks on the resource area, but they are not located within any project area.

*Mammals*

There are no known sites of the lynx or red tree vole.

**Plants**

No known sites of S&M plant species were listed in the known site database for the Klamath Falls Resource Area previous to on-the-ground surveys.

**Post-project Monitoring:** None needed.

**Conclusions:** Known sites of amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropod species listed in Appendix E of the RMP are being surveyed.

**Monitoring Question 5:** Are high priority sites for species management being identified?

**Monitoring Requirement:** At least 20 percent of all ground-disturbing management actions will be examined prior to project initiation and re-examined following project completion, to determine if surveys are conducted for species listed in Appendix E, protection buffers are provided for specific rare and locally endemic species and other species in the upland forest matrix, and sites of species listed in Appendix E are protected.

**Monitoring Performed:** Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin.

**Findings (for Muddy Tom timber sale):**

**Animals**

*Great Gray Owl*

All occupied sites are considered high priority by resource area staff. No nest sites have been located to date.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

High priority sites do not apply to these species.

*Mollusks*

Terrestrial mollusk surveys were conducted in the fall of 1998 and the spring of 1999 for the Muddy Tom timber sale. Two hundred and twenty one sites of *Prophysaon coeruleum* (blue-gray tail dropper) were recorded for the Muddy Tom sale area and its adjacent reserve areas. High priority sites of *P. coeruleum* populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

**Plants**

Surveys were conducted as per existing protocol for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and

High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities (see Question 1).

**Post-project Monitoring:** Muddy Tom timber sale has not been completely harvested. Post-project monitoring is pending implementation of this sale.

**Conclusions (for Muddy Tom timber sale):** High priority sites for species management are being identified.

**Findings (for Clover Hook-up timber sale):**

**Animals**

*Great Gray Owl*

All occupied sites are considered high priority by resource area staff. No nest sites have been located to date.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

High priority sites do not apply to these species.

*Mollusks*

Terrestrial mollusk surveys were conducted in the fall of 1998 and the spring of 1999 for the Clover Hook-up timber sale. No S&M mollusks were found within the project area or adjacent reserve areas.

**Plants**

Surveys were conducted as per existing protocol for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with GPS, and entered into the regional corporate database for S&M referred to as ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60 foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities (see Question 1).

**Post-project Monitoring:** Clover Hook-up timber sale has not been harvested. Post-project monitoring is pending implementation of this sale.

**Conclusions (for Clover Hook-up timber sale):** High priority sites for species management are being identified.

**Findings (for Surveyor Mountain timber sale):**

**Animals**

*Great Gray Owl*

All occupied sites are considered high priority by resource area staff. No nest sites have been located to date.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

High priority sites do not apply to these species.

*Mollusks*

Terrestrial mollusk surveys were conducted in the fall of 1999 and the spring of 2000 for the Surveyor Mountain timber sale. One hundred thirty-one sites of *Prophysaon coeruleum* (blue-gray tail dropper) were recorded for the Surveyor Mountain sale area and its adjacent reserve areas. High priority *P. coeruleum* populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground-disturbing activities to known populations and their microsite.

**Plants**

Surveys were conducted as per existing protocol for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a GPS, and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites will be revisited prior to timber sale activities and a 60-foot radius buffer established to protect the site from ground disturbing activities associated with timber harvest activities (see Question 1).

**Post-project Monitoring:** Surveyor Mountain timber sale is in the planning stage and has not been implemented. Post-project monitoring is pending implementation of this sale.

**Conclusions (for Surveyor Mountain timber sale):** High priority sites for species management are being identified.

**Findings (for Spencer Creek riparian hand thin):**

**Animals**

*Great Gray Owl*

All occupied sites are considered high priority by resource area staff. No nest sites have been located to date.

*White-headed Woodpecker, Black-backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl*

High priority sites do not apply to these species.

**Mollusks**

Terrestrial mollusk surveys were conducted in the fall of 1999 and the spring of 2000 for the Spencer Creek riparian hand thin. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite. One site of *P. coeruleum* was recorded for the Spencer Creek riparian hand thin.

**Plants**

Surveys were conducted as per existing protocol for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with GPS, and entered into ISMS. Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60 foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities (see Question 1).

**Post-project Monitoring:** Spencer Creek riparian hand thin is in the planning stage and has not been implemented. Post-project monitoring is pending implementation of this project.

**Conclusions (for Spencer Creek riparian hand thin):** High priority sites for species management are being identified.

## **Riparian Reserves** (RMP/ROD, Appendix K, page K-2)

### **Expected Future Conditions and Outputs**

(See also Aquatic Conservation Strategy Objectives)

- Provision of habitat for special status and SEIS special attention species.

### **Implementation Monitoring**

**Monitoring Question 1:** Are watershed analyses being completed before on-the-ground actions are initiated in Riparian Reserves?

**Monitoring Requirement:** The files on each year's on-the-ground actions will be checked annually to ensure that watershed analyses were completed prior to project initiation and to ensure the concerns identified in the watershed analysis were addressed in the project's Environmental Assessment (EA).

**Monitoring Performed:** Review of project files and EAs.



**Findings:** Watershed analyses have been completed for nearly all BLM managed lands west of Highway 97. The KFRA staff have started a watershed analysis that covers 112,000 acres in the Gerber Block.

**Conclusions:** Watershed analyses were completed for all projects having activities within Riparian Reserves. Recommendations and objectives of the watershed analysis were addressed in the EAs.

**Monitoring Question 2:** Is the width and integrity of the Riparian Reserves (RR) being maintained?

**Monitoring Requirement:** At least 20 percent of management activities within the KFRA will be examined prior to project initiation and re-examined following project completion, to determine whether the width and integrity of the Riparian Reserves (RR) were maintained.

**Monitoring Performed:** On May 15, 2000 a field review of the Stukel Mountain Timber Sale was conducted by Mike Bechdolt (Forester) and Barbara Machado (Hydrologist). The review determined that Riparian Reserves (RR) were implemented and effective in preventing direct impacts to the channel.

**Observations/Findings:** Units 1 and 3 were informally evaluated. Administration, skid trails, landings and RRs were reviewed. In unit 1 the RR was implemented as designed in the EA and no eroded material was observed in the RR. Skid trails were located away from the RR and showed no evidence of erosion. One skid trail was located. The road into Unit 1 was rutted and some waterbars had failed.

Unit 3 was more complex with multiple RRs. The RRs were implemented as designed in the EA. Where the haul road crossed the intermittent channel, eroded material had been delivered into the stream channel. Where the haul road was steep the waterbars directed eroded material into the RR. No RR was designated in the vicinity of a spring/seep area, and a landing was located within 150 feet of the spring. This feature appears to be seasonal, and was not as apparent at the time of layout as it was at the time of the field review.

**Conclusions/Recommendations:**

While the width of riparian reserves were maintained, the integrity of some buffers were impacted.

\$ The road into Unit 1 needs to be maintained and waterbars need to be installed.

\$ Skid trails should be not be located at the bottom of draws, to minimize the risk of channel development.

\$ Skid trail or haul road crossings should be graveled to minimize eroded material from entering the stream channel.

\$ Unnecessary haul roads should be closed/blocked after the sale, and after prescribed burning operations if reopened.

\$ Locate skid trails away from RRs and direct waterbars away from RRs.

**Monitoring Question 3:** What silvicultural practices are being applied to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain ACS objectives?

**Monitoring Requirements:** The Annual Program Summary will report what silvicultural practices are being applied in order to attain ACS objectives. See Watershed Restoration Projects and Riparian Habitat Enhancement, for a description of the silvicultural prescriptions applied in FY 2000.

**Monitoring Performed:** In FY 2000, silvicultural activities (hand thinning, hand piling, and burning) were implemented in the Riparian Reserves adjacent to the Stukel Mountain Timber Sale. Due to the overstocked condition of submerchantable material (3-7 inches DBH) and juniper encroachment, a hand thinning and piling contract was implemented in those parts of the RR area that were not treated as part of the timber sale. In addition, implementation of a hand thinning and piling contract was begun in FY 2000 and will be completed in FY 2001.

**Monitoring Question 4:** Are management activities in Riparian Reserves consistent with SEIS Record of Decision Standards and Guidelines, RMP management direction, and ACS objectives?

**Monitoring Requirement:** At least 20 percent of the activities that are conducted or authorized within Riparian Reserves will be reviewed in order to identify whether the actions were consistent with the SEIS Record of Decision Standards and Guidelines, RMP management direction, and ACS objectives. In addition to reporting the results of this monitoring, the Annual Program Summary will also summarize the types of activities that were conducted or authorized within Riparian Reserves.

**Monitoring Performed:** Stukel Mountain Timber Sale and hand treatment area. Riparian Reserve silvicultural activities were field reviewed by an interdisciplinary team of resource specialists.

**Findings:** See response to question 2.

**Conclusion:** The silvicultural activities were consistent with the SEIS Record of Decision Standards and Guidelines, RMP management direction, and ACS objectives.

**Comment/Discussion:** See the Aquatic Conservation Strategy section of the Annual Program Summary for a discussion of the activities that were conducted or authorized in Riparian Reserves.

**Monitoring Question 5:** Are new structures and improvements in Riparian Reserves constructed to minimize the diversion of natural hydrologic flow paths, reduce the amount of sediment delivery into the stream, protect fish and wildlife populations, and accommodate the 100-year flood?

**Monitoring Requirement:** All new structures and improvements within a Riparian Reserve will be monitored during and after construction to ensure that it was constructed to: minimize the diversion of natural hydrologic flow paths, reduce the amount of sediment delivery into the stream, protect fish and wildlife populations and accommodate the 100-year flood.

**Monitoring Performed:** No new structures or improvements were constructed in Riparian Reserves in FY 2000.

Monitoring Question 6:

A) Are all mining structures, support facilities and roads located outside the Riparian Reserves?  
B) Are those located within the Riparian Reserves meeting the objectives of the Aquatic Conservation Strategy?  
C) Are all solid and sanitary waste facilities excluded from Riparian Reserves or located, monitored, and reclaimed in accordance with Supplemental Environmental Impact Statement Record of Decision Standards and Guidelines, and resource management plan management direction?

**Monitoring Requirement:** All approved mining Plans of Operations will be reviewed to determine if: A) both a reclamation plan and bond were required, B) structures, support facilities and roads were located outside of Riparian Reserves, or in compliance with management action/direction for Riparian Reserves if located inside the Riparian Reserve, C) and if solid and sanitary waste facilities were excluded from Riparian Reserves or located, monitored, and reclaimed in accordance with RMP management direction.

**Monitoring Performed:** None; there are no mining claims in the Klamath Falls RA.

**Monitoring Question 7:** Are new recreation facilities within the Riparian Reserves designed to meet, and where practicable, contribute to Aquatic Conservation Strategy Objectives? Are mitigation measures initiated where existing recreation facilities are not meeting Aquatic Conservation Strategy Objectives?

**Monitoring Performed:** An evaluation of existing recreation facilities inside Riparian Reserves has not been completed to date.

**Monitoring Question 8:** Are new livestock handling and/or management facilities located outside Riparian Reserves? Are existing livestock handling and/or management facilities within the Riparian Reserves meeting the Aquatic Conservation Strategy Objectives?

**Monitoring Performed:** An evaluation of existing livestock handling and management facilities in Riparian Reserves has not been completed to date.

## **Late-Successional Reserves** (RMP/ROD, Appendix K, page K-4)

### **Expected Future Conditions and Outputs**

- Development and maintenance of a functional, interacting, Late-Successional, and old-growth forest ecosystem in Late-Successional Reserves
- Protection and enhancement of habitat for Late-Successional and old-growth forest-related species including the northern spotted owl

### **Implementation Monitoring**

**Monitoring Question 1:** What is the status of the preparation of assessments and fire plans for Late-Successional Reserves?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question #1.

**Monitoring Performed:** The status of the development of the resource area wide LSR assessment was reviewed.

**Findings:** A single Late-Successional Reserve Assessment is in preparation that will assess all 19 of the reserves designated for late-successional forest values within the resource area. Data on current conditions within each of the reserves have been collected in previous fiscal years. Along with historical descriptions and harvest data, these data served as a basis for written assessments of conditions in each reserve. Editing formatted each of these individual assessments similarly, and management recommendations are being written during FY 01. The Late-Successional Reserve Assessment will then be submitted to the Regional Ecosystem Office (REO) for review and approval.

A Late-Successional Reserve Assessment (LSRA) was developed during FY 99 that addressed conditions within 300-foot great gray owl meadow habitat buffers, which are un-mapped late-successional reserves under guidelines from the Northwest Forest Plan 1994 Record of Decision. This assessment, approved by REO in August 1999, will be included as a section of the LSRA for the resource area.

**Conclusion:** RMP requirements will be met in FY 2001.

#### **Monitoring Question 2:**

A) What activities were conducted or authorized within Late-Successional Reserves (LSRs) and how were they compatible with the objectives of the LSR plan?

B) Were the activities consistent with SEIS ROD Standards and Guides, RMP management direction, and Regional Ecosystem Office review requirements and the LSR assessment?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question #2.

**Monitoring Performed:** Review of activities conducted or authorized within Late-Successional Reserves (LSRs).

**Findings:** No activities occurred within LSRs, since the late-successional reserve assessment is not yet complete.

**Conclusion:** No activities occurred, since the late-successional reserve assessment is not yet complete.

**Monitoring Question 3:** What is the status of development and implementation of plans to eliminate or control non-native species which adversely impacts LSRs?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question #3.

**Monitoring Performed:** Review of species lists from each unmapped LSR, and review of the noxious weed management program.

**Findings:** Noxious weed management is not a habitat manipulation activity which requires a Late-Successional Reserve Assessment before implementation. Standards and Guides for LSRs direct us to evaluate the impacts of nonnative species currently within reserves, and to develop plans for control or elimination of species which are inconsistent with LSR objectives.

Vascular plant inventories revealed only four nonnative plant species which frequently occur in the LSRs. Bull thistle (*Cirsium vulgare*), mullein (*Verbascum thapsus*), western salsify (*Tragopogon dubius*), and cheat grass or downy brome (*Bromus tectorum*) were found in physically disturbed areas within LSRs. These species are not targeted for control by the resource area noxious weed management program because they are abundant and widespread in disturbed sites, and decline in abundance without disturbance. Therefore, these species are not inconsistent with LSR objectives. None of the noxious weed species which are targeted for control were found within LSRs.

**Conclusion:** Impacts of nonnative species have been evaluated, and the species which currently exist within the reserves are not inconsistent with LSR objective. Noxious weed management activities and prevention strategies on lands near and adjacent to late-successional reserves will reduce the probability that other nonnative species will become established with the reserves.

**Monitoring Question 4:**

- A) Are the effects of existing and proposed livestock management and handling facilities in Late-Successional Reserves being evaluated to determine if LSR objectives are met?
- B) Are livestock management and/or handling facilities relocated where LSR objectives are not met?

**Monitoring Requirement:** The Annual Program Summary will report the status of evaluations of existing and proposed livestock management facilities inside LSRs, to determine if reserve objectives are being met. The APS will report on the status of relocating those facilities where LSR objectives cannot be met.

**Monitoring Performed:** Review of existing and proposed livestock management facilities within the resource area.

**Findings:** No existing or proposed livestock management facilities are located within LSRs in the resource area.

## **Matrix** (RMP/ROD, Appendix K, page K-5)

### **Expected Future Conditions and Outputs**

- Production of a stable supply of timber and other forest Commodities.
- Maintenance of important ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as downed logs, snags, and large trees.
- Assurance that forests in the Matrix provide for connectivity between mapped Late-Successional Reserves.
- Provision of habitat for a variety of organisms associated with early and Late-Successional forests.

### **Implementation Monitoring**

**Monitoring Question 1:** Are suitable numbers of snags, coarse woody debris, and green trees being left, following timber harvest, as called for in the SEIS ROD Standards & Guidelines and RMP management direction?

**Monitoring Requirements:** At least 20 percent of timber sales in the resource area will be examined by pre- and post-harvest (and after site preparation) inventories to determine snag and green tree numbers, heights, diameters,

and distribution within harvest units. Snags and green trees left following timber harvest activities (including site preparation for reforestation) will be compared to those that were marked prior to harvest.

The same timber sales will be inventoried pre- and post-harvest to determine if SEIS Record of Decision and RMP down log retention direction and protection buffers for special status and SEIS special attention species have been followed.

**Monitoring Performed:** Only one timber sale was monitored during FY 2000, i.e., Stukel Mtn. Table 37 displays sales monitored in FY 1997 through 2000.

<b>Table 37. Timber Sale Monitoring</b>				
<b>FY Monitored</b>	<b>Timber Sale Name</b>	<b>Acres</b>	<b>Monitored By</b>	<b>Stand Exam Completed</b>
<b>1997</b>	Too Frosty	459	KFRA ID Team	Yes
<b>1998</b>	Lower Spencer Salvage	1000+	REO & KFRA ID Team	No
<b>1999</b>	Kakapoo Stew	397	REO & KFRA ID Team	Yes
<b>2000</b>	Stukel Mtn.	230	KFRA ID Team	Yes

#### **Findings:**

Two westside and one eastside, Density Management Sales have been quantitatively monitored by post-treatment stand exams; Too Frosty and Kakapo Stew (Westside) and Stukel Mtn (Eastside). Table 38 below summarizes the stand attribute data that was gathered from post-treatment stand exams. A quality control program has been initiated to assure that silviculture prescriptions modeled are actually being implemented on the ground. This is normally monitored using basal area.

#### **Snags**

The KFRA RMP requires leaving approximately 1.9 snags per acre (1.4 eastside) to meet the 60 percent optimum cavity nesting habitat for cavity nesters. An additional 0.7 snags per acre must also be left to meet the protection buffer requirement for white-headed and black-back woodpeckers. Snags for the white-headed woodpecker need to be at least 15 inches DBH and in the soft category. For the black-back woodpecker, the snags must be at least 17 inches DBH and in the hard category. Silvicultural prescriptions in the KFRA have generally called for leaving a total of 2.6 snags per acre (1.4 eastside) or more with at least one greater than 20 inches DBH. Quantitative, post-treatment stand exams to date on two of the sales indicate compliance with this standard. As Table 38 below indicates, a large number of green trees per acre are left which allows for potential snag recruitment, many exceeding 15 inches in diameter.

#### **Coarse Woody Debris (CWD)**

Page C-40 of the Northwest Forest Plan Record of Decision (ROD) states, "Until standards are developed as described above, the following guidelines apply in areas of regeneration harvests..." and sets the down wood requirement at 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long. The guideline for partial harvest, as stated on page 23 of the KFRA RMP and page C-40 of the ROD is, "In areas of partial harvest, the same basic guidelines should be applied, but they should be modified to reflect the timing of stand development cycles where partial harvesting is practiced." The KFRA needs to determine how they plan to monitor down wood through different stand development cycles where partial cutting (density management) is practiced to meet this standard and guideline.

<b>Table 38. Summary of Stand Characteristics For Timber Sales Monitored in FY 2000</b>				
<b>STUKEL MTN. TS (Westside) STAND ATTRIBUTES</b>				
<b>Structure</b>	Young Multi-Strata (Scattered Remnant Large Trees)			
<b>Canopy Closure</b>	Average = 57%			
<b>Basal Area / Acre (sq ft/ac)</b>	Average = 88 Range 0-180			
<b>Trees/Acre</b>	Average = 111 Range = 0-440			
<b>0-6" DBH</b>	9 (PJ) / 32 (PP) <b>Total = 41</b>			
<b>7"-18" DBH</b>	1 (DF) / 6 (PJ) / 47 (PP) / 1 (WF) <b>Total = 55</b>			
<b>19"-30" DBH</b>	0.6 (DF) / 5.8 (PP) <b>Total = 15.2</b>			
<b>&gt;30" DBH</b>	0.2 (PP) <b>Total = 0.2</b>			
<b>Tree Species Composition</b>	1.8% (DF) / 13.4% (PJ) / 83.6% (PP) / 1.1% (WF)			
<b>Fuel Loading Tons/Acre - (Only logs &gt; 5" diameter and 8' long )</b>	4.7 Tons/Acre			
<b>Coarse Woody Debris (Total Length/Acre) ≥16" diameter, ≥ 16' long Decay Class 1 &amp; 2 Logs (NFP Criteria = 120 FT.)</b>	155 feet *  (For the eastside, 50 Linear Feet of ≥8" diameter logs & ≥ 8' long / Decay Class 1 & 2 Logs)			
<b>≥16" diameter, ≥ 16' long Decay Class 3, 4, &amp; 5</b>	None Found			
<b>≥16" diameter, ≥ 8' long All Decay Classes</b>	155 feet			
<b>≥ 5" diameter, ≥8' length All Decay Classes</b>	683 feet			
<b><u>Snags/Acre</u></b>	<b><u>Ht.</u></b>	<b><u>DBH</u></b>		
		7"-14" DBH	≥15" DBH	Totals
<b>Class 1 &amp; 2 Snags</b>	≥ 51ft.	7.34	0.73	8.07
	≤ 50 ft.	5.57	3.14	8.71
<b>Class 3, 4, &amp; 5 Snags</b>	≥ 51ft.	--	--	--
	≤ 50 ft.	--	--	--
<b>Totals</b>		12.91	3.87	16.78

Although it has been clarified that density management sales do not have to meet the 120 linear feet ROD requirement, Table 38 indicates that some large CWD is still being retained. On the Too Frosty timber sale, approximately 49 linear feet of CWD per acre was found that met the ROD requirement. On the Kakapo Stew timber sale, approximately 33 linear feet of CWD per acre was found. The Stukle Mtn. TS had approximately 155 linear feet of CWD that met the requirement. Table 38 also indicates that there is a significant amount of smaller diameter CWD that contributes to the excessive fuel loads and the corresponding risk for high intensity wildfires.

Note: Visual observations of the one sale where no quantitative stand exams were completed, Lower Spencer Salvage in 1998, indicated snag levels and coarse woody debris levels well in excess of the RMP objectives. In some locations within the KFRA, meeting the snag and coarse woody debris levels has not been a problem due to the on-going tree mortality. In many instances, we have been unable to harvest the excess mortality that resulted from the 1991-1992 drought and subsequent insect outbreaks. In addition, the high incidence of Indian paint fungus (*Echinodontium tinctorium*) in some areas of the resource area results in hundreds of standing non-merchantable trees both dead and living to provide excellent snag and coarse woody debris recruitment. In many stands, fuel loads are elevated above historic levels and underburns are being scheduled to reduce the smaller diameter fuels.

### **Green Tree Retention**

The RMP requires that an average of 16 to 25 Westside (5-10 eastside) large green trees per acre be left. Plan maintenance (see 1999 APS) clarification indicates that this requirement is for regeneration harvests only. To date, the KFRA has only implemented one 39-acre regeneration harvest unit. Most harvest prescriptions have consisted of either density management or mortality salvage prescriptions. In both prescriptions, a majority of the large green trees are retained. As Table 38 below indicates, over 100-200+ green trees per acre have been left, many of them in them in the larger diameter classes. With the exception of regeneration harvest areas, the KFRA intends to concurrently implement uneven-aged management prescriptions, maintain late-successional structural components, and address forest health issues in the Matrix.

### **Tree Species Composition**

The KFRA is tracking species composition changes through pre- and post-treatment stand exams to help determine trends in species composition changes. Many of the stands contain a higher percentage of shade tolerant species (white fir) than historically found (Leiburg, 1899). This is primarily a result of past harvesting practices--where much of the overstory pines and Douglas-fir were removed--and fire suppression, which tends to favor the shade tolerant white fir. An objective in most silvicultural prescriptions is to retain the healthy pines and Douglas-fir. The data from both Kakapo Stew and Too Frosty timber sales indicates that the post-treatment stands still consist of over 80+ percent of white fir in the mixed conifer sites.

### **Canopy Closure**

The KFRA is monitoring canopy closure changes through pre- and post-treatment stand exams. Research to date often uses canopy closure thresholds to evaluate whether a particular stand meets nesting, roosting, or foraging habitat. To date, using the density management prescription, canopy closure after harvest on Westside timber sales has averaged 65 to 86 percent, which is a level that meets the requirements for some late-successional dependent species.

### **Basal Area**

The KFRA monitors basal area changes for a number of reasons. First, there has been considerable research on optimizing stand densities and growth, using basal area to monitor stand stocking levels. The Growth and Yield Model (ORGANON) that was used to help determine the ASQ is highly dependent upon basal area before and after harvest to determine growth rates. The silvicultural prescriptions for these sales contain basal area objectives. Post-treatment monitoring is done to determine if those objectives were met. Second, there has been a significant amount of research, particularly on drier sites, defining basal area levels where stands are susceptible to insect outbreaks. The KFRA uses these threshold levels in the silvicultural prescriptions to assure that silvicultural treatments are adequate to improve resiliency of the stand and reduce insect outbreaks. Generally, the higher elevation stands have a higher basal area threshold than the drier, low elevation stands. Three sales have been monitored to date for residual basal area. Too Frosty averaged 180 sq ft/acre. The objective was between 120 and 160 sq ft/acre for this sale. Because this was one of the first RMP sales prepared and the requirement for leaving 16-25 large green trees per acres was being applied to density

management harvests at the time, a higher basal area was likely left on this sale. On the Kakapo Stew timber sale, an average of 108 sq ft/acre was retained. The objective was between 90 and 120 sq ft/acre for this sale. Stukel Mtn. timber sale was an eastside sale. The residual basal area objective was 80-100 square feet per acre. Table 38 shows that the residual basal area on Stukel Mtn. averaged 88 square feet per acre.

**Conclusion:**

This 2000 annual program summary contains some clarification in the Planning Update Section addressing the requirement of leaving an average of 16 to 25 large green trees in regeneration harvests only. The KFRA has complied with the snag, coarse woody debris, and green tree requirements to date. A quality control program has been initiated to assure that silvicultural prescriptions modeled are actually being implemented on the ground. This is normally monitored using basal area. Post-harvest monitoring indicates retention of many desirable late-successional characteristics. The wildlife staff is monitoring biological use of post-treatment stands by late-successional dependent species (see Wildlife Section).

**Monitoring Question 2:** Are timber sales being designed to meet ecosystem goals for the Matrix?

**Monitoring Requirements:** At least 20 percent of the files on each year's timber sales within Matrix will be reviewed annually to determine if ecosystem goals were addressed in the silvicultural prescription.

**Monitoring Performed:** Only one timber sale was monitored during FY 2000, i.e., Stukel Mtn. Table 37, presented previously, displays sales monitored in FY 1997 through 2000.

**Findings:** All timber sales are designed to meet ecosystem goals for the Matrix and address resource concerns raised in both the respective Watershed Analysis and Environmental Assessment. All resources are analyzed for impacts including wildlife, soils, hydrology, plants, social, cultural, as well as others. All timber sales incorporate the applicable Best Management Practices (BMPs) described in Appendix D of the RMP. Post-treatment monitoring of three sales to date indicates that most BMPs have been addressed in the Environmental Analysis and incorporated into the Timber Sale Contract.

In 2000, one timber sale, Stukel Mtn. underwent formal monitoring. The following is the summary of comments by the KFRA ID team.

**Monitoring Summary Of the Stukel Mtn. Timber Sale; Date of IDT Review: 6/13/2000**

Stukel Mtn. Timber Sale Sold June 1997; Cutting and Yarding Completed August 1998

**Treatments:**

Density Management Prescription - Average basal area retention objective was 90 square feet per acre. No submerchantable material was cut as part of the timber sale. Whole tree yarding was required to reduce contributing to fuel loads.

- Service Contract - Fall 1998 - Precommercial Thinning, juniper eradication, hand piling of submerchantable material.
- Service Contract - Spring 1999 - Prescribed Burn

**Comments:****Roads**

- Waterbars did not hold up on the dirt roads through the sale area. It appears that the waterbars were 6"-12" high upon completion of sale but public traffic broke the waterbars down. There was some evidence of sediment movement off the dirt roads being caught by roadside vegetation and debris.
- Some "negotiable water dips" could have been put in on the dirt spurs in lieu of waterbars. Not sure if there was sufficient funds in the sale to cover these costs.
- Some waterbars were directed (angled) towards drainages instead of away. In some cases, this was unavoidable.
- The roads were blocked upon completion of harvest operations then reopened for the prescribed burning operations. The roads should have been re-blocked upon completion of prescribed burning operations as well.
- The one road crossing an intermittent drainage in unit 3 should have been graveled.



- The one skid trail crossing a drainage in unit 3 should have had some debris and/or logs placed in the drainage during skidding.
- Some of the old roads in the area are really old fire trails from the 1942 fire.
- Jeld-Wen has recently closed/gated the Hidden Valley Roads year around to cut down on the vandalism and road damage to Jeld-Wen lands.

#### Yarding

- Some skid trails were located in small depressions. Try to avoid in the future as depressions can turn into channels and run sediment. Also, depressions are difficult to waterbar and direct water to the side.

#### Riparian Reserve Issues

- Recommended that hand crews be used to lop and scatter existing slash and large snag pockets. In addition, use hand crews to cut junipers near existing pines and precommercial thin.
- Summer fire crew to thin the RR in Unit 1 that did not burn.

#### Silviculture / Site Prep

- Some ponderosa pine > 7"DBH were girdled during service contract.
- Suggestion was made to cut out more juniper.
- Overall, the area that was treated/precommercially thinned looked very good. Much of the submerchantable material that is sometimes treated under timber sale contracts was treated using a service contract after the sale. Almost all members of the IDT liked the hand follow-up treatment. It was recommended that the submerchantable material in Units 2 & 3 be hand treated as well.

#### Spring of 1999 Prescribed Burn Results

- No quantitative data received as yet
- Visual observation indicated little mortality of residual timber
- Overall results and conclusion were that the prescribed burn went very well.
- Many of the larger fuels (5"-20" DBH past mortality) were not consumed. It will take follow-up up burns 2-3 years apart to continue to reduce fuel loading that was result of the 1992-1994 bark beetle mortality.

#### Hydrology

- The review determined the riparian reserves (RR) were implemented and effective in preventing direct impacts to the channel.
- Observations: Units 1 and 3 were informally evaluated. Administration, skid trails, landings and RRs were reviewed. In unit 1 the RR was implemented as designed in the EA and no eroded material was observed in the RR. Skid trails were located away from the RR and showed no evidence of erosion. One skid trail was located down the middle of a draw. The road into Unit 1 was rutted and some waterbars have failed.
- Unit 3 was more complex with multiple RRs. The RRs were implemented as designed in the EA. Where the haul road crossed the intermittent channel eroded material was going into the stream channel. Where the haul road was steep the waterbars directed eroded material into the RR. The landing was located near a spring, no spring RR was designated in the EA and the landing was within 150 feet of the spring.

#### Hydrological Recommendations

- The road into Unit 1 needs to be maintained. Waterbars need to be installed.
- Skid trails should be not be located at the bottom of draws to minimize the risk of channel development.
- Skid trail or haul road crossings should be graveled to minimize eroded material from entering the stream channel.
- Unnecessary haul roads should be closed/blocked after sale and after prescribed burning operations if reopened.
- Locate skid trails away from RRs and direct waterbars away from RRs.

**Monitoring Question 3:** Are Late-Successional stands being retained in fifth-field watersheds in which federal forest lands have 15 percent or less Late-Successional forest?

**Monitoring Requirements:** All proposed regeneration harvest timber sales in watersheds with less than 15 percent Late-Successional forest remaining will be reviewed prior to sale to ensure that a watershed analysis has been completed.

**Monitoring Performed:** A revised 15% analysis is currently in progress that will be published concurrent with the completion of the Klamath Falls Resource Area third year evaluation.

**Findings:** For all three Watershed Analyses, an analysis was done to determine the amount of Late-Successional Forest in the watershed on federal lands. For both the Spencer Creek Watershed and the Topsy/Pokegama/Hamaker Landscape Analysis Area, the percent of Late-Successional Forest in the watershed was above 15%. Further direction has required that the Topsy/Pokegama/Hamaker Landscape Analysis Area be analyzed at the fifth field watershed level, which means 4 different watersheds within the Topsy/Pokegama/ Hamaker Landscape need further evaluation. The results of that analysis are being finalized as part of the Third Year Evaluation.

One unique feature of the KFRA, as indicated by post-treatment monitoring thus far, is that many of the stands after treatment are still capable of contributing to late-successional habitat within the watershed, due to the residual stand characteristics being left. Silvicultural prescriptions have been implemented that addressed two primary objectives: first, maintenance of late-successional habitat; and second, treating overstocked stands to reduce risks of catastrophic fire and/or insect events. There are some watersheds where the residual late-successional habitat may be close to 15% and still experiencing forest health concerns that could benefit from some light understory treatments.

## **Air Quality** (RMP/ROD, Appendix K, pages K-6 and K-24)

### **Expected Future Conditions and Outputs**

- Attainment of national Ambient Air Quality Standards, Prevention of Significant Deterioration goals, and Oregon Visibility Protection Plan and Smoke Management Plan goals.
- Maintenance and enhancement of air quality and visibility in a manner consistent with the Clean Air Act and the State Implementation Plan.

### **Implementation Monitoring**

**Monitoring Question 1:** Were efforts made to minimize the amount of particulate emissions from prescribed burns?

**Monitoring Requirements:** At least twenty percent of prescribed burn projects carried out in FY 2000 will be randomly selected for monitoring to assess what efforts were made to minimize particulate emissions, and whether the environmental analysis that preceded the decision to burn addressed the questions set forth in the SEIS discussion of Emission Monitoring (pages 3&4-100).

**Monitoring Performed:** In FY 98, the Lakeview District began a program of aerial observation of burns located near smoke sensitive areas during marginal weather events. In a number of situations, the smoke plume was videotaped as a record.

**Findings:** Of the 1,730 acres of prescribed burning conducted, 700 acres were implemented in the spring to reduce the number of emissions. Higher moisture content in the larger fuels and duff means less fuel available to burn. Spring burns are conducted when the atmosphere is unstable; thereby decreasing the impact of smoke in sensitive areas. Of the remaining 1,030 acres, fall burning occurred on areas of light fuel loadings. As related to harvest units, logging methods required the yarding of tops and limbs attached. Some of this material was chipped and utilized. The material not in locations suitable to chip were burned early fall to provide for complete and quick consumption. Smoldering is not a problem using this method.

**Conclusion:** Efforts were made to reduce particulate emissions from prescribed burns by conducting those that could be conducted in the spring and still meet hazard reduction objectives.

**Monitoring Question 2:** Are dust abatement measures used during construction activities and on roads during BLM timber harvest operations and other BLM commodity hauling activities?

**Monitoring Requirements:** At least 20 percent of the construction activities and commodity hauling activities carried out in FY 2000 and subject to the current RMP will be monitored to determine if dust abatement measures were implemented where needed.

**Monitoring Performed:** Kakapo Stew, East Grenada, Spencer Creek, and Stukel Mtn. Salvage Sales. These areas have been monitored since 1995.

**Findings:** All timber sales in the Klamath Falls Resource Area include a road watering specification as part of the contract. Water is required to abate dust during any road construction phase of the contracts. Impacts on air quality from road construction and timber hauling were of short duration, local nature, and had little impact on regional air quality. There was an ample supply of water.

- In addition to contractual requirements, the majority of roads within the Kakapo Stew Sale were graveled or paved.
- The East Grenada Sale is in a water deficient location. The principle access road is partially graveled and cindered. Water was used sparingly.
- Spencer Creek Salvage Sale transported low volumes infrequently over a large number of roads.

**Monitoring Question 3:** Are conformity determinations being prepared prior to activities which may contribute to a new violation of the national Ambient Air Quality Standards, increase the frequency or severity of an existing violation, or delay the timely attainment of a standard?

**Monitoring Requirements:** The Annual Program Summary will address Implementation Question 3.

**Monitoring Performed:** In FY 98, the Lakeview District began a program of aerial observation of burns located near smoke sensitive areas during marginal weather events. In a number of situations, the smoke plume was videotaped as a record.

**Findings:** Preplanning of prescribed fire projects, use of current weather data, and onsite observations during prescribed burning have reduced frequency and severity of smoke from prescribed fire violating Air Quality Standards.

## **Water and Soils** (RMP/ROD, Appendix K, page K-8)

### **Expected Future Conditions and Outputs**

- Restoration and maintenance of the ecological health of watersheds. See Aquatic Conservation Strategy Objectives.
- Improvement and/or maintenance of water quality in municipal water systems.
- Improvement and/or maintenance of soil productivity.
- Reduction of existing road mileage within Key Watersheds, or at a minimum, no net increase.

### **Implementation Monitoring**

**Monitoring Question 1:** Are site specific Best Management Practices, identified as applicable during interdisciplinary review, carried forward into project design and execution?

**Monitoring Requirement:** All management activities using best management practices will be monitored to determine whether best management practices are incorporated into the project design. At least twenty percent of the timber sales, silviculture projects, or other ground disturbing activities stratified by management category will be randomly selected for monitoring to determine whether or not best management practices were implemented as prescribed. The selection of management actions to be monitored will be based on beneficial uses likely to be impacted, and for which best management practices are being prescribed.

**Monitoring Performed:** Implementation of BMPs and Project Design Features of the Stukel Mtn. Timber Sale was monitored by an interdisciplinary team. A soil monitoring program was initiated for the Grenada East Timber Sale. Analysis of quantitative soil monitoring data collected in 1998-99 for the Kakapoo Stew timber sale was completed.

**Findings:** In FY1998, quantitative pre-harvest monitoring was conducted in the Kakapoo Stew timber sale. In the fall of 1999, post-harvest data collected in this same area. In FY 2000, this data was analyzed with the following results:

Standards and guidelines for detrimental soil disturbance have been developed for the Pacific Northwest region (Meurisse 1997) and incorporated into the BLM-Klamath Falls Resource Area RMP as Best Management Practices. The following are standards and guidelines for detrimental soil conditions for areal extent and compaction (Meurisse 1997): Area of detrimental conditions - Leave a minimum of 80% of area (including permanent transportation system) in an acceptable productivity potential for trees and other managed vegetation.

Areal extent sampling determined that 8 percent of the Kakapoo Stew timber sale area was disturbed by heavily used skid roads, 10 percent by skid roads of intermediate use, and 8 percent by lightly used skid roads. A total of 26 percent of the timber sale area was disturbed by skid roads. According to analysis of bulk density and areal extent sampling, a total of 8 percent of the timber sale area was detrimentally disturbed (i.e., heavily used skid roads).

**Conclusion:** Resource Management Plan (RMP) objectives for soil monitoring have been met. Quantitative post-harvest soil monitoring data collected and analyzed during FY1998, FY 1999, FY 2000 for the Kakapoo Stew timber sale suggests that best management practices for the degree of soil disturbance and soil compaction was in compliance with the BLM-Klamath Falls Resource Area RMP and regional standards and guidelines for detrimental soil impacts (Meurisse 1997).

**Comment/Discussion:** Quantifying soil disturbance enables resource area staff to determine whether resource management plan objectives for protecting soil resources are being met. Soil monitoring on the resource area is a long term program. To date, quantitative soil monitoring has been conducted on three resource area timber sales: Kakapoo Stew timber sale in FY1998, FY 1999, with analysis in FY 2000; Frosty Too timber sale in FY1997-1998; and Grenada East timber sale in FY 2000. The results from soil monitoring on both the Frosty Too and Kakapoo Stew timber sales will be considered in the layout of future resource area timber sales, and in the design of future soils monitoring programs.

**Monitoring Question 2:** Are the prescribed actions, programs and interagency coordination efforts called for in the NFP Record of Decision Standards and Guidelines and resource management plan management direction being conducted?

**Monitoring Performed:** Review of timber sale and project files and monitoring of ground disturbing activities.

**Findings:** Management actions and programs are being conducted to meet or move towards desired future water and soils conditions. Riparian reserve treatments are being implemented to move towards Aquatic Conservation Strategy objectives. In coordination with Oregon Department of Environmental Quality, the resource area is supporting the development of TMDLs (Total Maximum Daily Loads) and WQMPs (Water Quality Management Plans) for streams within the resource area. Soil productivity requirements are being maintained and improved in timber sales and other projects. Existing road mileage in the Spencer Creek watershed is being reduced.

**Monitoring Question 3:** What watershed analyses have been or are being performed? Are watershed analyses being performed prior to management activities in Key Watersheds?

**Findings:** The following table displays the status of watershed analysis.

<b>Table 39. Status of Watershed Analysis</b>		
<b>Watershed Analysis Completed</b>	<b>Key Watershed</b>	<b>Completion Date</b>
Spencer Creek Watershed Analysis	Spencer Creek & Clover Creek	August 1995
Jenny Creek Watershed Assessment and Analysis	Jenny Creek	February 3, 1995
Topsy-Pokegama Landscape Analysis	None	July, 1996
<b>Watershed Analysis in Process</b>	<b>Key Watershed</b>	<b>Expected Completion</b>
Gerber/Willow Valley	None	2002

**Conclusion:** Watershed analyses have been completed for all key watersheds and for essentially all BLM managed lands west of Highway 97. A watershed analysis covering approximately 112,000 acres on the eastside of the resource area (Gerber-Willow Valley Watershed) will be initiated in FY 2000. The Spencer Creek watershed analysis is being updated with the results of the GIS Hydrology theme update and the Spencer Creek Road Inventory.

**Monitoring Question 4:** What is the status of identification of in-stream flow needs for the maintenance of channel conditions, aquatic habitat, and riparian resources?

**Findings:** There was no work on instream flows performed in FY 2000.

**Monitoring Question 5:** What watershed restoration projects are being developed and implemented?

**Findings:** In Riparian Reserves, approximately 37 acres received silvicultural treatments to meet ACS objectives. Additionally, approximately 10 acres of a planned 80 acres riparian thin were completed. These treatments involved understory thinning to reduce the density of shade-tolerant species in the understory for the purpose of reducing fire risk and enhancing the health of desired overstory trees.

During FY 2000, 1.3 miles of roads were decommissioned, 0.9 miles were closed, and 4.3 miles were resurfaced.

A project to remove a large rock quarry tailings pile, obliterate 1600' of road, and restore portions of the stream channel and riparian area on Clover Creek was completed in FY 2000. Approximately 1,800 cubic yards of crushed rock and fine sediments were removed from the riparian area along Clover Creek and an access road was obliterated and blocked.

In the Wood River wetlands, 0.7 miles of stream channel were realigned to historic channel dimensions and form.

A road sediment study and inventory in the Spencer Creek watershed was started to help prioritize roads needing treatment.

**Conclusion:** Watershed restoration projects are being developed and implemented to meet the RMP and ACS objectives.

**Monitoring Question 6:** What fuel treatment and fire suppression strategies have been developed to meet Aquatic Conservation Strategy Objectives?

**Findings:** BMPs for the protection of soils, water, and riparian resources are being implemented during prescribed fire activities. Silvicultural prescriptions involving understory thinning treatments are being implemented in Riparian Reserves to reduce potential fuel loads to decrease the risk of catastrophic fires. These treatments are designed to improve forest health and meet the Aquatic Conservation Strategy objectives.

**Conclusions:** Fuel treatment prescriptions are being implemented to meet ACS and RMP objectives.

**Monitoring Question 7:** What is the status of development of road or transportation management plans to meet Aquatic Conservation Strategy Objectives?

**Findings:** A Transportation Management Plan (TMP) has been developed for lands covered by the SEIS ROD. An inventory of existing road conditions and their potential to effect the attainment of ACS objectives was begun the Spencer Creek watershed. This data will be used to supplement the existing TMP. A TMP is currently underway for the eastside of the resource area. Analysis of roads is done during timber sale planning to determine their effects upon ACS objectives.

**Conclusions:** A Transportation Management Plan has been developed and will be revised and supplemented with additional data from road inventories and project analyses.

**Monitoring Question 8:** What is the status of preparation of criteria and standards which govern the operation, maintenance, and design for the construction and reconstruction of roads?

**Findings:** A Transportation Management Plan has been developed for lands covered by the NFP ROD. Roads, culverts, and bridges are designed, constructed and maintained in accordance with policies and standards set forth in BLM 9100 Series Manuals and the Best Management Practices (BMP). Maintenance levels are assigned to each road reflecting the appropriate maintenance that fits the Transportation Management Objectives (TMO) for the planned management activity.

A road sediment study in the Spencer Creek watershed was begun to help refine the standards for road construction and maintenance. The study will examine the effects of several parameters including slope, road surface material, and drainage factors.

**Conclusions:** Progress is being made on development of the criteria and standards for roads.

**Monitoring Question 9:** What is the status of the reconstruction of roads and associated drainage features identified in watershed analysis as posing a substantial risk? What is the status of closure or elimination of roads to further Aquatic Conservation Strategy Objectives, and to reduce the overall road mileage within all watersheds? If funding is insufficient to implement road mileage reductions, are construction and authorizations through discretionary permits denied to prevent a net increase in road mileage in Key Watersheds?

**Findings:** During FY 2000, 1.3 miles of roads were decommissioned, 0.9 miles were closed, and 4.3 miles were resurfaced to help control and prevent sediment production from road-related runoff.

A road sediment study and inventory in the Spencer Creek watershed was begun to help prioritize roads needing treatment.

**Conclusions:** Progress is being made in reducing overall road mileage and density. The sediment study and survey will be completed in FY01, and will help identify areas for maintenance, upgrading, closures or obliterations.

**Monitoring Question 10:** What is the status of reviews of ongoing research in Key Watersheds to insure that significant risk to the watershed does not exist?

**Monitoring Requirement:** Review of existing and proposed research activities in Key Watersheds and Riparian Reserves.

**Findings:** No formal research activities are being conducted in Key Watersheds or Riparian Reserves in the Klamath Falls Resource Area.

**Monitoring Question 11:** What is the status of evaluation of recreation, interpretive and user-enhancement activities/facilities to determine their effects on the watershed? What is the status of eliminating or relocating these activities/facilities when found to be in conflict with Aquatic Conservation Strategy objectives?

**Findings:** An evaluation of existing recreation facilities inside Riparian Reserves has not been completed to date. An evaluation is planned for FY 2001

**Monitoring Question 12:** What is the status of cooperation with other agencies in the development of watershed-based Coordinated Resource Management Plans and other cooperative agreements to meet Aquatic Conservation Strategy objectives? What is the status of cooperation with other agencies to identify and eliminate wild ungulate impacts which are inconsistent with attainment of Aquatic Conservation Strategy objectives?

**Findings:** A Coordinated Resource Management Plan was developed for the Spencer Creek Watershed in 1994 by a group consisting of several government agencies, private companies and individuals. Many individual and cooperative projects have been implemented to address concerns from the plan. The group continues to meet on a regular basis to address resource management concerns on both public and private land.

Resource concerns on private and public lands west of Highway 97 are also addressed through the Pokegama Cooperative Habitat Project, which is an alliance of government agencies, private companies, citizens groups and organizations, and individuals.

No detrimental impacts from wild ungulates have been identified. The Pokegama Cooperative Habitat Project group and the BLM will address any impacts if they are identified.

The Gerber/Willow Valley CRMP begun in FY 2000, is expected to be completed in FY01 or FY02.

**Conclusions:** Cooperative agreements and planning efforts are being developed to meet RMP and ACS objectives.

**Monitoring Question 13:** Are management practices achieving the goal of maintaining long-term site productivity by avoiding, minimizing, or ameliorating soil compaction, displacement, surface erosion, and loss of organic material, including coarse woody debris?

**Monitoring Requirement:** All management activities using best management practices will be monitored to determine whether best management practices are incorporated in the project design.

At least twenty percent of the timber sales, silviculture projects, or other ground disturbing activities stratified by management category will be randomly selected for monitoring to determine whether or not best management practices were implemented as prescribed. The selection of management actions to be monitored will be based on beneficial uses likely to be impacted, and for which best management practices are being prescribed.

**Monitoring Performed:** Analysis of the quantitative soil monitoring data was completed for the Kakapo Stew timber sale.

**Findings:** See Findings under Water and Soils, Implementation Question 1.

**Conclusions:** See Conclusion under Water and Soils, Implementation Question 1.

**Comment/Discussion:** The issue of soil health on the resource area is being investigated by quantifying

disturbance levels. Concerns have been raised on the resource area about excessive soil compaction possibly occurring with repeated use of a mechanical harvester in a forest stand over time. Use of a mechanical harvester results in greater areal ground disturbance since it is not confined to skid roads, although in theory a mechanical harvester reportedly causes less soil compaction since it exerts less pounds per square inch of force/pressure than other ground-based harvesting machinery. Since use of a mechanical harvester is becoming more and more common and is the most economical choice for density-management treatment of forest stands, the resource area is measuring the areal extent of soil disturbance and changes in soil bulk density in one timber sale area per year to evaluate soil health.

Findings from monitoring done in 1998 in one timber sale area suggest that detrimental soil compaction, as defined by Forest Service Region 6 and resource area standards and guidelines, may have occurred. Findings from monitoring done in a different timber sale area in 1998, 1999 and completed in 2000 suggest that the threshold for detrimental compaction (15 percent increase in bulk density) was approached. However, multiple years of monitoring mechanical harvester use are needed before drawing any conclusions about soil compaction. Consequently, the resource area will continue monitoring one timber sale per year using quantitative methods in order to accumulate more data from which conclusions about the areal extent and degree of soil compaction resulting from the use of a mechanical harvester can be made. Copies of the 1998 and 2000 soil monitoring reports, detailing methods and results, can be obtained at the resource area office.

## **Wildlife Habitat** (RMP/ROD, Appendix K, page K-9)

### **Expected Future Conditions and Outputs**

- Maintenance of biological diversity and ecosystem health to contribute to healthy wildlife populations, consistent with BLM's Fish and Wildlife 2000 plan and other nationwide initiatives.
- Maintenance of desired conditions in each special habitat (such as meadows, wetlands, and cliff/talus slopes), plus desired conditions in buffers at least 100 feet wide around dry meadows, and wooded swamps.

### **Implementation Monitoring**

**Monitoring Question 1:** Are suitable (diameter, length and numbers of) snags, coarse woody debris and green trees being left, in a manner that meets the needs of species and provides for ecological function in harvested areas as called for in the SEIS Record of Decision Standards and Guidelines and RMP management direction?

**Monitoring Requirement:** At least 20 percent of regeneration harvest timber sales in each resource area will be examined by pre- and post-harvest (and after site preparation) inventories to determine snag and green tree numbers, heights, diameters, and distribution within harvest units. The measure of distribution of snags and green trees will be the percent in the upper, middle and lower thirds of the sale units monitored. Snags and green trees remaining following timber harvest activities (including site preparation for reforestation) will be compared to those that were marked prior to harvest.

The same timber sales will be inventoried pre- and post-harvest to determine if SEIS Record of Decision and RMP down log retention direction has been followed.

**Monitoring Performed:** Stukel Mountain Timber Sale. To date, monitoring of snags, coarse woody debris, and green trees has been conducted only on density management and mortality salvage sales because no regeneration harvest have been implemented.

**Findings:** In FY 2000, the Stukel Mountain Timber Sale was monitored by KFRA staff. Snag levels and coarse woody debris remaining after harvest exceeded the requirement for both the RMP and NFP. For details on the results of this monitoring, see Monitoring Question 1 under "Matrix".

**Monitoring Question 2:** Are special habitats being identified and protected?



**Monitoring Requirement:** At least 20 percent of BLM actions, within each resource area, on lands including or near special habitats will be examined to determine whether special habitats were protected.

**Monitoring Performed:** Surveys for Survey and Manage species such as the great gray owl and terrestrial mollusks are conducted prior to ground-disturbing activities. A number of great gray owl and blue-gray tail-dropper sites have been found on the resource area. Several sites were occupied by great gray owls; however, no nest sites have been found. Surveys in calendar year 1999 yielded over 250 blue-gray tail-dropper sites, but in calendar year 2000 only a small number of sites (<25) were found. Other special habitats are identified through the ID Team process.

**Findings:** Special habitats are identified and protected through project design that avoids special habitats or by creating reserves within the project areas. Buffers and seasonal restrictions are also included in the project design features. Wildlife biologists often participate in the actual layout to ensure that special habitats get proper recognition and protection.

### **Monitoring Question 3:** What is the status of designing and implementing wildlife restoration projects?

**Monitoring Performed:** A Challenge Cost Share with Rocky Mountain Elk Foundation to improve winter range habitat was approved in 1999 and the contract was completed in FY 2000. This work involves mechanical treatment of the invasive juniper.

Projects completed to improve mule deer habitat in FY 2000 were: 1) planting of Bitterbrush seedlings at three different locations, 2) mechanical removal of juniper trees on big-game winter ranges, and 3) manual removal of encroaching juniper in old chaining areas.

**Findings:** Several projects have been designed and implemented to improve habitat for wildlife.

### **Monitoring Question 4:** What is the status of designing and constructing wildlife interpretive and other user-enhancement facilities?

**Monitoring Performed:** The Wood River Wetland Project

**Findings:** Plans are being developed to design a wildlife interpretive center in the wetlands area.

### **Monitoring Question 5:** Are elk herds on BLM-administered lands stable or increasing?

**Monitoring Performed:** Various wildlife surveys.

**Findings:** According to Oregon Department of Fish and Wildlife informal herd counts, elk are increasing in number in the Klamath Falls Resource Area. BLM participated in an aerial survey of elk in the Keno unit in February of 2000. This was a cost shared project with ODFW. BLM cooperated by contracting the helicopter. Wild horses were also inventoried during the flight.

### **Monitoring Question 6:** Are range conditions stable or is there obvious competition between resources?

**Monitoring Performed:** See the response to the "Grazing Management" question #1 in regards to studies and monitoring that address the range condition stability.

In addition, one wildlife specific rangeland monitoring study type has been performed over the past 10 years on some priority wildlife winter range (or potential winter range) allotments - the Modified Cole Browse study. This study measures the post growth and post livestock grazing utilization on key browse species in the fall. Then, as a comparison, measurements are taken of the post winter and pre-growth utilization level in the spring (i.e. measures winter use by wildlife). These measurements are periodically performed on wedgeleaf ceanothus and serviceberry on the KFRA's westside and on antelope bitter brush on the eastside.

**Findings:** In general, all studies have found range conditions to be stable to improving on the vast majority of the BLM administered lands in the KFRA. Also, see the response to Question #1 in “Grazing Management”.

Summarized findings to date are that livestock (cattle) and wild horses (westside only) make little use of any of the shrub species, with a couple exceptions. Cattle and, in particular, wild horses, will make occasional significant use (i.e., moderate or higher) on serviceberry on the westside; neither make significant summer use of the wedgeleaf ceanothus. On the eastside of the KFRA, cattle will make similar occasional significant use (moderate to heavy) on bitterbrush, but only in the few areas that receive significant livestock use after approximately August 15<sup>th</sup>.

**Conclusions:** Rangeland conditions are apparently stable or improving on most of the BLM administered lands within the KFRA. The recently completed Ecological Site Inventory showed this to be true on the Gerber Block, which comprises over ½ of the KFRA. Also, see response to Question #1 in “Grazing Management”.

There are no particular resource concerns with shrub use within the KFRA. The westside use on the serviceberry is insignificant because that shrub is an insignificant part of the vegetation communities. Wedgeleaf ceanothus is vastly more abundant and is not being impacted at present by summer livestock (or wildlife) use. On the eastside, the areas that have received moderate or higher bitterbrush use are extremely small and in areas that are rarely, if ever, used by wintering deer or elk. No studies have found any significant resource competition issues between large wildlife herbivores and livestock on the BLM lands.

**Wildlife Departures:** As part of the RMP, it was planned to treat 1/4 of the brushfields in each allotment during a decade. Treatment, in this case, meant returning the brushfield to an early seral state or rejuvenating it through extensive use of mechanical, manual or fire treatments. The acre figures noted in the Grazing EIS were based on 1/4 of the acres of identified mature brushfield in each allotment. Since the RMP was approved, the range inventories have shown the need for more treatment acres to simply maintain existing sagebrush stands in optimum condition. The treatments are not as extensive as far as ground disturbance as originally proposed but may cover more acres per allotment.

The prescribed fire EA (Environmental Assessment OR-014 94-09) was incorporated into the RMP and proposed treating up to 10,000 acres. Currently, the projects proposed to treat excess fuels under the Fire EA, treat some of the same allotments where brushfields are scheduled to be managed. Fuels management treatments were also analyzed in the RMP.

Therefore, there may be more acres treated in each allotment than is covered in Appendix H of the RMP. However since the types of treatments have been analyzed in the RMP and the disturbance per acre is less than previously predicted, the impacts are well within those analyzed in the RMP.

The number of acres treated in large blocks for density management purposes may have a negative effect upon deer and elk and other species dependent upon the understory components of a stand for cover. In order to provide some variation in the stand density across the landscape, small clumps of trees were retained within the sale areas. The number and acreage of clumps retained was dependent upon the importance of an area to deer and elk and upon the original characteristics of the stand. The combination of these clumps and reserve areas such as Riparian Reserves comprise up to 20 percent of the harvested acres for a given entry. Some of these "wildlife clumps" are comprised primarily of white fir and are overstocked. These "wildlife" clumps may be treated during subsequent harvest entries and are not considered to be permanent reserves. For the sales within the third year evaluation time frame, all wildlife clumps were less than an acre. For the period beyond this evaluation period, larger clumps of up to 15 acres may be retained. The decision not to thin these areas may result in an increase in the number of snags and thus result in a potential benefit to woodpeckers and secondary cavity nesters. No evaluation of the use of these wildlife clumps by wildlife has been made to date.

**Monitoring Question 7:** Are facilities or improvements functional and providing desired management results?

**Monitoring Requirement:** Maintain and check management facilities (such as guzzlers, springs, road closures, etc.) periodically to ensure that they are functioning properly.

**Monitoring Performed:** Currently, 9 cisterns and 24 spring developments in the resource area are being maintained for wildlife. The cisterns are located throughout the resource area in areas where water is not plentiful. In the past,

maintenance of these water sources was through a challenge cost share with the Oregon Department of Fish and Wildlife.

In the Gerber area, approximately 96 goose nesting-boxes are maintained with help from the Oregon Hunters Association. Nest boxes are monitored for success and for needed repairs. Additional areas that could support nesting structures and water developments are periodically reviewed.

Seasonal road closures are visited bi-annually. Permanent road closures are checked on an annual basis.

**Findings:** Severe damage to locks on road closure gates throughout the KFRA is a continual problem. Many of the locks are being shot and the gates opened, and/or vehicles are driving around the closures.

**Conclusions:** More time and effort needs to be given to wildlife improvements. Project files have been updated with current maps created in GIS. Due to the severe and decreased effectiveness of the Gerber area closures, a project to replace the existing cable closures with more effective pipe gate closures is being considered. A challenge cost share project proposal with US Timberlands to eliminate unneeded roads on the westside of the resource area is still being considered. The roads would be closed to benefit wildlife habitat and alleviate maintenance problems. An increased monitoring effort will be proposed with help from the Oregon department of Fish and Wildlife, Oregon State Police, and local conservation groups. This may alleviate some of the closure violations and damage to the gates.

All water improvements for wildlife will be revisited and reviewed in the FY 2001 summer. A complete report with updated maps will be produced in the fall. A monitoring schedule will be revised upon completion of the report.

### **Monitoring Question 8:** Is the BLM protecting special habitats as provided for in the RMP?

**Monitoring Requirement:** Examine 20 percent of BLM actions on lands containing or near special habitats to determine whether special habitats were protected as provided for in the RMP. Monitor the effects of BLM management on wildlife species using a variety of methods. Coordinate surveys of game species with the Oregon Department of Fish and Wildlife. Conduct monitoring of other species and habitats as needed, such as neotropical migratory birds by vegetation community, individual species surveys when needed, and vegetation surveys as part of the timber and range management activities.

**Monitoring Performed:** Riparian zones are marked and managed according to the Aquatic Conservation Strategy. Raptor nest sites are protected with buffers and nest season restrictions. Special habitats (such as talus slopes, seeps and springs, etc.) are identified during the planning phase of the activities and protected during the design and implementation phase using the Best Management Practices identified in the RMP. Other habitats such as meadows important to great gray owls are identified during surveys, and buffers are established during timber sale preparation. Landbird surveys have been initiated in special habitats identified as a concern by the Western Working Group of Partners in Flight.

Surveys are being conducted for landbirds in the Klamath River Canyon, Wood River, grazing allotments, and Gerber Reservoir in cooperation with the Klamath Bird Observatory and Pacific Southwest Research Station of the USFS. Partners in the project included World Wildlife Fund, Point Reyes Bird Observatory, Klamath Basin National Wildlife Refuge, and Winema NF. Data compiled will be used for BLM's evaluation of the FERC relicensing of power projects on the Klamath River and grazing allotments.

A study of landbirds in habitats including sagebrush, juniper/sage, old growth juniper, and juniper/ponderosa pine, was continued. The purpose of this multi-year study is to evaluate the conditions and trends within these habitat types for assessment of management actions related to juniper harvest treatments.

The carnivore study was continued which involves the use of baited camera stations to detect specific "target" species including the American marten, fisher, lynx, and wolverine. Species found included the American Marten, bobcat, bird species and a black bear.

**Findings:** District Designated Reserve Buffers (DDRBs) have been established around all spotted owl nest cores, per RMP guidance. The need for special spotted owl habitat silvicultural prescriptions within these DDRBs is

evaluated during timber sale planning for potential habitat improvement.

Boundaries for great gray owl buffers were posted around approximately 275 acres of meadows and natural openings in 1999. Within the Muddy Tom Timber Sale area, a portion of the buffer area was identified for habitat enhancement and a silvicultural prescription was developed. In FY 2000, pre-treatment stand exams were conducted within these great gray owl meadow buffers. Photo-monitoring plots will be established in 2001.

Studies of landbirds are ongoing and site-specific analysis has not yet been completed.

**Conclusions:** Special habitats specified in the RMP are being provided for as they are identified.

**Monitoring Question 9:** Is the average width of undisturbed buffers retained following timber harvest and site preparation activities as specified in the RMP?

**Monitoring Requirement:** Determine average buffer widths by measurements at approximately equidistant points around the affected unique habitat within each timber sale unit.

**Monitoring Performed:** Buffers are checked during the post timber sale reviews on 20 percent of the sales. Nest buffers for owls, eagles, and accipiters are visited annually during nesting and reproductive success monitoring efforts.

**Findings:** Buffers are marked and managed according to NFP and RMP guidelines. The average width of buffers established according to the NFP and RMP are being retained following timber harvests.

## **Fish Habitat** (RMP/ROD, Appendix K, page K-10)

### **Expected Future Conditions and Outputs**

(See also Aquatic Conservation Strategy Objectives)

- Maintenance or enhancement of the fisheries potential of streams and other waters consistent with BLM's Fish and Wildlife 2000 Plan, the Bring Back the Natives initiative, and other nationwide initiatives.
- Rehabilitation and protection of at-risk fish stocks and their habitat.

### **Implementation Monitoring**

**Monitoring Question 1:** Are at-risk fish species and stocks being identified?

**Monitoring Requirements:** The Annual Program Summary will report on the status of watershed analysis to, their habitat within individual watersheds, and restoration project needs.

**Monitoring Performed:** The Gerber/Willow Valley Watershed Analysis was initiated during FY 2000. Work on at risk fish species in the analysis area was conducted. Two sucker species (shortnose and Lost River) are listed as endangered under the Endangered Species Act, as amended. Two additional species are managed as a Bureau sensitive species; Klamath River redband trout and Klamath largescale sucker. These fish species are present within the analysis area.

**Findings:** One new watershed analyses was initiated in FY 2000 that identified at-risk fish species and stocks.

**Monitoring Question 2:** Are fish habitat restoration and enhancement activities being designed and implemented which contribute to attainment of Aquatic Conservation Strategy Objectives?

**Monitoring Requirements:** The Annual Program Summary will report on the status of the design and implementation of fish habitat restoration and habitat activities.

**Monitoring Performed:** In the Spencer Creek watershed approximately 1000 feet of road adjacent to Clover Creek was obliterated and ripped. Approximately 500 feet of sideslope road was recontoured in the Clover Creek drainage. Coconut fiber coir logs and sheets of coconut matting were placed along the stream bank to stabilize the channel and reestablish stream meander. Re-vegetation of the ripped road is planned.

In the Spencer Creek drainage, a riparian thinning of dense white fir in FY 2000 was initiated. The project is expected to cover approximately 100 acres and is intended to enhance old growth conditions. Both the Clover Creek project and the riparian thinning were recommended in the Spencer Creek Watershed Analysis.

Resource area staff restored approximately 0.25 mile of the lower Wood River to more natural meander patterns and depths, which will improve fish habitat and water quality (see Wood River section).

In the Gerber Watershed, the Barnes Valley Creek low water ford was reconstructed in FY 2000. The project is designed to improve fish passage on Barnes Valley at the ford and improve fluvial process above and below the crossing. The project should help endangered shortnose suckers to pass the ford at lower flows.

Staff from both the KFRA and the Klamath Falls office of the Bureau of Reclamation (BOR) identified low winter flows in Miller Creek as an adverse impact to redband trout and endangered suckers. These BLM and BOR biologists are planning a study to determine how much water is needed for fish to allow them to not become stranded in pools in winter.

**Findings:** Fish habitat restoration and enhancement activities are being designed and implemented to contribute towards attainment of ACS objectives.

### **Monitoring Question 3:** Are potential adverse impacts to fish habitat and fish stocks being identified?

**Monitoring Requirements:** The Annual Program Summary will report on the status of cooperation with federal, tribal and state fish management agencies to identify and eliminate impacts associated with poaching, harvest, habitat manipulation and fish stocking which threaten the continued existence and distribution of native fish stocks inhabiting federal lands. The APS will identify any management activities or fish interpretive and other user-enhancement facilities that have been detrimental effects on native fish stocks.

**Monitoring Performed:** There has been considerable cooperation between state, federal, and tribal biologists on the work being conducted and work being proposed at the Wood River project (see Wood River section). The project will have long term benefits to fish habitat but there have been short-term losses in habitat quality such as increased sediment which have been identified. These impacts have been mitigated in a number of ways (see Wood River section).

A rotary screw trap was operated, by resource area staff, in the Wood River for all of FY 2000. The objective of the trapping was to identify the multiple fish species present and migratory behaviors which potentially could be adversely affected by instream channel realignment of the Wood River. Results of the trapping operations were documented in the Annual Monitoring Report for the Wood River, 2000.

The resource area staff have been cooperating with U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, U.S. Forest Service, The Nature Conservancy, U.S. Bureau of Reclamation, and U.S. Geological Survey-Biological Resources Division on redband trout and bull trout working groups to develop and implement scientifically based management strategies for these species.

**Findings:** Adverse impacts to fish habitat and fish stocks are being identified and mitigation performed.

### **Monitoring Question 4:** Are habitat improvement projects and opportunities being identified?

**Monitoring Requirements:** At least twenty percent of the files on each year's timber sales, and other relevant actions, will be reviewed annually to evaluate documentation regarding fish species and habitat and related recommendations and decisions in light of policy and NFP ROD Standards and Guidelines and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.

**Monitoring Performed:** There was an extensive review by resource area specialists of the Stukel Mountain Timber Sale in FY 2000. Specifically, units 1 and 3 of Stukel Mountain Timber Sale reviewed.

**Findings:** Administration, skid trails, landings and riparian reserves (RR) were reviewed, and in summary proper widths were implemented and they appeared effective in preventing direct impacts to the channel. In unit 1, the RR was implemented as designed in the EA and no eroded material was observed in the RR. Skid trails were located away from the RR and showed no evidence of erosion. The road into Unit 1 was rutted and some waterbars have failed. Unit 3 was more complex with multiple RRs. The RRs were implemented as designed in the EA. Where the haul road crossed the intermittent channel, eroded material did reach the stream channel. Where the haul road was steep the waterbars directed eroded material into the RR, although no sediment appeared to reach the stream channel.

**Monitoring Question 5:** Are fish populations adequate to provide present and expected future recreational needs?

**Monitoring Requirements:** Monitor lakes and fish populations, and stocks if necessary.

**Monitoring Performed:** The KFRA has several excellent recreational fisheries: the lower Wood River, the Klamath River, Four Mile Creek, Miller Creek, Spencer Creek, reservoirs of the Gerber/Willow Valley Watershed, and Topsy reservoir. Most stream fisheries are for redband trout, but Four Mile Creek contains brook trout as well. Reservoir fisheries are for multiple cold water and warm water game fish species.

**Findings:** Recreational needs for fisheries are growing in Klamath County. The resource area staff will need to assess and consult with ODFW and USFWS on these streams and watersheds in light of the increasing recreational demand. The potential exists for improving habitat to protect recreational fisheries against adverse impacts in order to continue to meet recreational needs. Miller Creek, Spencer Creek, and the Klamath River are on the EPA's (303d) list for impaired water quality for excessive sediment and temperature.

## Special Status and SEIS Special Attention Species Habitat

(RMP/ROD, Appendix K, page K-11)

### Expected Future Conditions and Outputs

- Protection, management, and conservation of federal listed and proposed species and their habitats, to achieve their recovery in compliance with the Endangered Species Act and Bureau special status species policies.
- Conservation of federal candidate and Bureau sensitive species and their habitats so as not to contribute to the need to list, and recover the species.
- Conservation of state listed species and their habitats to assist the state in achieving management objectives.
- Maintenance or restoration of community structure, species composition, and ecological processes of special status plant and animal habitat.
- Protection of Bureau assessment species and SEIS special attention species so as not to elevate their status to any higher level of concern.

### Implementation Monitoring

#### Monitoring Question 1:

A) Are special status species being addressed in deciding whether or not to go forward with forest management and other actions?

B) During forest management and other actions that may disturb special status species, are steps taken to mitigate or avoid disturbances?

**Monitoring Requirement:** At least 20 percent of the files on each year's timber sales, range improvements, grazing decisions, and other relevant actions (e.g., rights-of-way, instream structures) will be reviewed annually to evaluate documentation regarding special status species and related recommendations and decisions in light of the Endangered Species Act requirements, policy and SEIS Record of Decision Standards and Guidelines, and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.

**Monitoring Performed:** Review of the following projects: Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin.

**Findings (for Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin):**

**Animals**

See "Special Status Species, Wildlife" and the monitoring section on "All Land Use Allocations". More complete write-ups of all the surveys that were completed for these areas are included in these sections.

*Great Gray Owl*

Surveys were conducted throughout the Muddy Tom Area. Four different routes were surveyed to protocol. Even though great gray owls have been observed in the area the past two years no nest sites have been located.

*Mollusks*

Pre-disturbance mollusk surveys for this project were conducted in FY1999 (see the July 2000 Klamath Falls Resource Area-Annual Program Summary for specifics).

**Plants**

*Vascular Plants*

Bellinger's meadow foam (*Limnanthes floccosa* ssp. *bellingiana*), a Bureau sensitive species, and pygmy monkey flower (*Mimulus pygmaeus*), a Bureau tracking species, occur on the edges of seasonally wet meadow adjacent to timber sale areas. Buffer standards for seasonally wet meadows will adequately protect these populations from disturbances associated with timber sale activities.

*Non-Vascular Plants*

As a result of FY2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Muddy Tom T.S., Riparian Reserves, and neighboring District Designated Reserves (DDRs). The NFP classifies S&M species into five categories: Component 1, 2, 3, 4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Muddy Tom timber sale. Component 1 = 11 sites; Component 2 = 0 sites; Component 3 = 489 sites; Component 4 = 378 sites; Protection Buffer = 0 sites.

The following are the NFP standards and guidelines for managing Component 1, 2, 3, 4, and Protection Buffer species: manage known sites for Component 1 species; survey prior to ground disturbing activities for Component 2 species; manage high priority sites for Component 3 species; acquire additional information and determine necessary levels of protection for Component 4 organisms; manage known sites for Protection Buffer species. There are Management Recommendations for Component 1, 2, and most protection buffer fungi species. Currently, there are no specific management recommendations for Component 3 and 4 fungi.

**Conclusions (for Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin):** Special status species are being addressed in deciding whether or not to go forward with forest management and other actions, and steps are taken to mitigate or avoid disturbances.

**Comment/Discussion (for Muddy Tom timber sale, Clover Hook-up timber sale, Surveyor Mountain timber sale, and Spencer Creek riparian hand thin):**

**Animals**

All known sites were documented and appropriate seasonal operating restrictions were applied. Sites were monitored after the activities to see if impacts or disturbance had occurred.

*Mollusks*

The majority of Survey and Manage mollusk site locations were captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

**Plants**

Surveys were conducted for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

**Monitoring Performed:** Review of Clover Hook-up timber sale.

**Findings (for Clover Hook-up timber sale):**

**Animals**

See “Special Status Species, Wildlife” and the monitoring section on “All Land Use Allocations”. More complete write-ups of all the surveys that were completed for these areas are included in these sections.

*Great Gray Owl*

No surveys were needed for this species in this area.

*Mollusks*

Pre-disturbance mollusk surveys for this project were conducted in FY1999 (see the July 2000 Klamath Falls Resource Area-Annual Program Summary for specifics).

**Plants**

*Vascular Plants*

Two populations of the S&M Strategy 1 & 2 vascular plant species, *Cypripedium montanum* (mountain lady-slipper), were found and documented. Thermal clumps were delineated, marked in the field, and located using a GPS unit in order to buffer the *Cypripedium montanum* (mountain lady-slipper) populations. This species is also a Bureau Tracking Species (TS) under special status species policy. Special status vascular plant surveys found no other species of special status plant species.

*Non-Vascular Plants*

As a result of FY2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Clover Hook-up T.S., Riparian Reserves, and neighboring District Designated Reserves (DDRs). The NFP classifies an S&M species into five categories: Component 1, 2, 3, 4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).



The following are the number of sites for each Component and Protection Buffer fungi documented for the Clover Hook-up timber sale. Component 1 = 9 sites; Component 2 = 0 sites; Component 3 = 304 sites; Component 4 = 207 sites; Protection Buffer = 0 sites.

The following are the NFP standards and guidelines for managing Component 1, 2, 3, 4, and Protection Buffer species: manage known sites for Component 1 species; survey prior to ground disturbing activities for Component 2 species; manage high priority sites for Component 3 species; acquire additional information and determine necessary levels of protection for Component 4 organisms; manage known sites for Protection Buffer species. There are Management Recommendations for Component 1, 2, and most protection buffer fungi species. Currently, there are no specific management recommendations for Component 3 and 4 fungi.

**Conclusions (for Clover Hook-up timber sale):** Special status species are being addressed in deciding whether or not to go forward with forest management and other actions, and steps are taken to mitigate or avoid disturbances.

**Comment/Discussion (for Clover Hook-up timber sale):**

**Animals**

Spotted owl habitat and the known Bald eagle nest sites are being protected and activities in the area went through the consultation process.

*Mollusks*

The majority of Survey and Manage mollusk site locations were captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. *Prophysaon coeruleum* (blue-gray tail dropper) populations and their habitat were managed or protected through the use of thermal clumps (also known as buffer areas) to reduce ground disturbing activities to known populations and their microsite.

**Plants**

Surveys were conducted for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

**Monitoring Performed:** Spencer Creek riparian hand thin.

**Findings (for Spencer Creek riparian hand thin):**

**Animals**

See "Special Status Species, Wildlife" and the monitoring section on "All Land Use Allocations". Complete write-ups of all the surveys that were completed for these areas are included in these sections.

*Mollusks*

Terrestrial: Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband) may occur within the resource area. In FY2000, spring and fall pre-disturbance surveys for terrestrial mollusks were conducted on 120 acres of public land within the Spencer Creek riparian hand thin project area. One site of *P. coeruleum* was identified. No other Survey and Manage terrestrial mollusks were found.

Aquatic: Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. Pre-disturbance surveys for aquatic mollusks were conducted on approximately ten acres of Spencer Creek. No S&M aquatic mollusk species were found.

**Plants**

*Vascular Plants*

Vascular plant surveys found no special status vascular plant populations in the project area.

### *Non-Vascular Plants*

As a result of FY2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Spencer Creek riparian hand thin. The NFP classifies an S&M species into five categories: Component 1, 2, 3, 4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Spencer Creek riparian hand thin. Component 1 = 8 sites; Component 2 = 0 sites; Component 3 = 143 sites; Component 4 = 52 sites; Protection Buffer = 0 sites.

The following are the NFP standards and guidelines for managing Component 1, 2, 3, 4, and Protection Buffer species: manage known sites for Component 1 species; survey prior to ground disturbing activities for Component 2 species; manage high priority sites for Component 3 species; acquire additional information and determine necessary levels of protection for Component 4 organisms; manage known sites for Protection Buffer species. There are Management Recommendations for Component 1, 2, and most protection buffer fungi species. Currently, there are no specific management recommendations for Component 3 and 4 fungi.

**Conclusions (for Spencer Creek riparian hand thin):** Special status species are being addressed in deciding whether or not to go forward with forest management and other actions, and steps are taken to mitigate or avoid disturbances.

### **Comment/Discussion (for Spencer Creek riparian hand thin):**

#### **Animals**

Communication occurred with FWS on this project and they agreed that the project was a no effect on bald eagles or suckers. They also agreed that the project would help the forest health by thinning around large trees along the stream. This would help keep the trees healthy for future nest or perch sites.

#### *Mollusks*

Terrestrial: The one known site of the S&M mollusk *Prophysaon coeruleum* discovered within this project area was flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). This site was revisited prior to hand thinning activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities which may be associated with this project.

Pre-disturbance surveys for S&M terrestrial mollusks will continue for all potential ground disturbing activities. Current management recommendations for the terrestrial mollusk species (Management Recommendations for Terrestrial Mollusk Species *Prophysaon coeruleum* & *P. dubium* V.2.0) will be administered.

Aquatic: No aquatic mollusks were found within the project area. Pre-disturbance surveys for S&M aquatic mollusks will continue for all potential ground disturbing activities which may impact aquatic mollusks. Current management recommendations for aquatic mollusk species (Management Recommendations for Survey and Manage Aquatic Mollusks Version 2.0) will be administered.

#### **Plants**

Surveys were conducted for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. All Component 1, Protection Buffer, and High Priority Sites were revisited prior to timber sale activities and a 60-foot radius buffer was established to protect the site from ground disturbing activities associated with timber harvest activities.

**Monitoring Performed:** Surveyor Mountain timber sale.

**Findings (for Surveyor Mountain timber sale):**

**Animals**

See “Special Status Species, Wildlife” and the monitoring section on “All Land Use Allocations”. Complete write-ups of all the surveys that were completed for these areas are included in these sections.

*Mollusks*

Terrestrial: Four Survey and Manage (S&M) terrestrial mollusk species *Prophysaon dubium* (tail dropper), *Prophysaon coeruleum* (blue-gray tail dropper), *Pristiloma arcticum crateris* (crater lake tightcoil), and *Helminthoglypta hertleini* (Oregon Shoulderband)) may occur within the resource area. In FY2000, spring and fall pre-disturbance surveys for terrestrial mollusks were conducted on approximately 600 acres of public land within the Surveyor Mountain timber sale. 131 sites of *P. coeruleum* were identified. No other Survey and Manage terrestrial mollusks were found.

Aquatic: Three undescribed S&M aquatic mollusk species in the genus *Fluminicola* (*Fluminicola* sp. #1, #3, and #16) are known to occur on this resource area. Approximately two acres of potential habitat was surveyed for S&M aquatic mollusks. No S&M aquatic mollusk species were found.

**Plants**

*Vascular Plants*

Vascular plant inventories have found green flowered ginger (*Asarum wagneri*), a Bureau sensitive species, in some of the higher elevation units of this timber sale. Inventory information will be evaluated, and if particular units contain a high density of green-flowered ginger, then those units will be recommended for snow logging.

*Non-Vascular Plants*

As a result of FY2000 surveys, many Northwest Forest Plan (NFP) Survey and Manage (S&M) fungi species were found within the Surveyor Mountain T.S., and Riparian Reserves. The NFP classifies an S&M species into five categories: Component 1, 2, 3, 4, and Protection Buffer species. The specific classification dictates whether surveys are required prior to ground disturbing activities, and some general management recommendations for that Component. A single species may be classified in more than one Component class in addition to being a Protection Buffer species (i.e. some species are a Component 1 and a Protection Buffer species).

The following are the number of sites for each Component and Protection Buffer fungi documented for the Surveyor Mountain T.S. project area. Component 1, 13 sites; Component 2, 1 sites; Component 3, 251 sites; Component 4, 155 sites; Protection Buffer, 1 site.

The following are the NFP standards and guidelines for managing Component 1, 2, 3, 4, and Protection Buffer species: manage known sites for Component 1 species; survey prior to ground disturbing activities for Component 2 species; manage high priority sites for Component 3 species; acquire additional information and determine necessary levels of protection for Component 4 organisms; manage known sites for Protection Buffer species. There are Management Recommendations for Component 1, 2, and most protection buffer fungi species. Currently, there are no specific management recommendations for Component 3 and 4 fungi.

The Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, was signed in January, 2001 and is currently being implemented. Under the new Record of Decision and Standards and Guideline amendments, pre-disturbance surveys for many species are no longer required, some species have been removed from the S&M list, and some species will require habitat protection while others will not. Species removed from the S&M list were determined by panels of taxa experts either not to be associated with late-successional or old-growth forest or not to be at risk because of adequate representation in reserve systems.

**Conclusions (for Surveyor Mountain timber sale):** Special status species are being addressed in deciding whether or not to go forward with forest management and other actions, and steps are taken to mitigate or avoid disturbances.

**Comment/Discussion (for Surveyor Mountain timber sale):**

**Animals**

Surveys and consultation with FWS are continuing.

*Mollusks*

Terrestrial: The majority of Survey and Manage mollusk site locations were captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field.

The Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, was signed in January, 2001 and is currently being implemented. Under the new Record of Decision and Standards and Guideline amendments, pre-disturbance surveys for many species are no longer required, some species have been removed from the S&M list, and some species will require habitat protection while others will not. Species removed from the S&M list were determined by panels of taxa experts either not to be associated with late-successional or old-growth forest or not to be at risk because of adequate representation in reserve systems. *Prophysaon coeruleum* (blue-gray tail dropper) was one species, commonly found on the resource area during surveys in calendar year 1999, that was removed from the S&M list in the 2001 ROD.

Pre-disturbance surveys for S&M terrestrial mollusks will continue for all potential ground disturbing activities.

Aquatic: Pre-disturbance surveys for S&M aquatic mollusks will continue for all potential ground disturbing activities which may impact aquatic mollusks. Current management recommendations for aquatic mollusk species (Management Recommendations for Survey and Manage Aquatic Mollusks Version 2.0) will be administered.

**Plants**

Surveys were conducted for Component 2 and Protection Buffer species prior to ground disturbing activities. The majority of Survey and Manage site locations were flagged and captured with a Geographical Positioning System (GPS), and entered into the regional corporate database for S&M referred to as ISMS (Interagency Species Management System). Some locations could not be referenced using GPS because of technical difficulties capturing satellite signals in the field. In FY2001, all Component 1, Protection Buffer, and High Priority Sites will be revisited prior to timber sale activities and a 60-foot radius buffers will be established to protect the site from ground disturbing activities associated with timber harvest activities.

Because of the changes made by implementation of the recent Record of Decision and Standards and Guideline amendments to the Northwest Forest Plan, there are no S&M fungi on the resource area to survey for in calendar year 2001. The bulk of the S&M work on the resource area in FY2001 will be establishing protection buffers around known S&M fungi sites found last year. Surveys for S&M organisms on the resource area in the future will be accomplished through strategic (landscape-scale) surveys at plots randomly located on the CVS (Current Vegetation Survey) grid each year by the regional interagency S&M team.

**Monitoring Question 2:** Are the actions identified in plans to recover species being implemented in a timely manner?

**Monitoring Requirement:** Review implementation schedule and actions taken annually, to ascertain if the actions to recover species were carried out as planned.

**Monitoring Performed:** Programs were reviewed for compliance with recovery plans.

**Findings:**

**Animals**

Recommendations contained in the NFP and consultations on individual projects were followed closely.

**Plants**

No Federally listed threatened or endangered plant species occur on BLM land administered by the Klamath Falls Resource Area. Therefore, no recovery plans have been developed for plant species which occur in the resource area. The resource area botanist has evaluated the recovery plan and actions for the federally listed (endangered) Applegate's milkvetch (*Astragalus applegatei*). This species is endemic to the Klamath Basin, but no known populations occur on federal lands.

**Conclusions:** Actions identified in plans to recover species are being implemented in a timely manner.

**Monitoring Question 3:** What coordination with other agencies has occurred in the management of special status species?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question 3.

**Monitoring Performed:** An overall program review, plus a review of the Muddy Tom timber sale and the Wood River Wetland restoration.

**Findings (for Program Review):**

USFWS consultation for listed species; REO coordination of SEIS special attention species (Survey and Manage); Challenge Cost Share project with ODA, OSU and USFS to establish reintroduction sites for red-root yampah (*Perideridia erythrorhiza*) on lands managed by each federal cooperator, using propagation and cultivation techniques developed by ODA in 1997; and a research project on yellow rails at the Four-mile Creek Wetland and the Wood River Wetland is in cooperation with the Oregon Natural Heritage Program (ONHP). We have also cooperated with adjacent landowners (UST and Boise Cascade) on management of spotted owls when the nest site is on or near property lines. These practices include agreeing on core areas, coordinating timber management and silvicultural practices, and monitoring of nesting activity before and after the project.

**Findings (for Muddy Tom timber sale):**

In areas of the resource area occupied by great gray owls, 300-foot buffers were identified around meadows and natural openings as required under the guidelines of the Northwest Forest Plan. Under these guidelines, these meadow habitat buffers become un-mapped late-successional reserves. During FY 1999, a Late-Successional Reserve Assessment (LSRA) was developed that addressed conditions within these areas. In a letter dated August 4, 1999, the REO found that the LSRA for great gray owl meadow habitat buffers in the Klamath Falls Resource Area provides a sufficient framework and context for future projects and activities within the un-mapped LSRs.

**Findings (for Wood River Wetland restoration):**

As phase III of the Wood River channel restoration continued, KFFO continued to communicate with FWS, ODFW, the Klamath Tribe, and several private organizations about the project and the work being completed. This was necessary as conditions at the project were constantly changing.

**Conclusions:** Coordination with other agencies has occurred in the management of special status species.

**Monitoring Question 4:** What land acquisitions occurred or are underway, to facilitate the management and recovery of special status species?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question 4.

**Monitoring Performed:** Reviewed potential land acquisitions.

**Findings:** No land acquisitions occurred or are underway, to specifically facilitate the management and recovery of special status species.

**Conclusions:** Land acquisitions have not occurred and are not underway, to facilitate the management and recovery of special status species.

**Monitoring Question 5:** What site-specific plans for the recovery of special status species were or are being developed?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question 5.

**Monitoring Performed:** Program review.

**Findings:**

**Animals**

BLM, specifically the KFFO, is not currently involved in the development of any site-specific recovery plan.

**Plants**

No site specific plans for the recovery of special status plant species are or have been developed.

**Monitoring Question 6:** What is the status of analysis which ascertains species requirements or enhances the recovery or survival of a species?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question 6.

**Monitoring Performed:** Program review

**Findings:**

**Animals**

The KFFO continues to monitor all known sites for spotted owls, goshawks, and eagles. In addition we also survey potential habitat for spotted owls and great gray owls before we conduct any ground disturbing activity. In FY 2000, we also monitored potential peregrine sites.

**Plants**

In FY 2000, monitoring of the known population of *Rorippa columbiae* (Columbia cress - a Bureau sensitive species) in the resource area found a total of 193 plants on both BLM and private lands, an decrease from the total of 252 plants found in 1999. One hundred twenty-one (121) of these plants were found on BLM lands, down from 161 plants in 1999. There had been an upward trend for this population over the course of seven years of monitoring. Therefore, the 2000 total population is still greater than the total found as recently as 1996. These fluctuations may be cyclic in nature as moisture conditions in southeastern Oregon can vary greatly from year to year.

A Challenge Cost Share (CCS) project was initiated in FY 99 to establish experimental reintroduction sites for *Perideridia erythrorhiza* (red-root yampah - a Bureau sensitive species) on lands managed by each federal cooperator, using and testing propagation and cultivation techniques developed by ODA in 1997. Also, limited reciprocal transplanting of east- and west-side individuals would be conducted to advance our knowledge about functional genetic differences between east- and west-side populations of *P. erythrorhiza*. A progress report on results to date was submitted by the Oregon Department of Agriculture (ODA) during FY 2000, and the final report will be submitted in March 2001.

**Conclusions:** Analyses that ascertain species requirements or enhances the recovery or survival of a species are ongoing.

**Monitoring Question 7:** What is the status of efforts to maintain or restore the community structure, species composition and ecological processes of special status plant and animal habitat?

**Monitoring Requirement:** The Annual Program Summary will address Implementation Question 7.

**Monitoring Performed:** Program review.

**Findings:**

**Animals**

Timber harvest prescriptions continue to look at long term health of the ecosystem. The objectives of the prescriptions are to manage for a multi-storied stand that will be healthy and remain as habitat or return to functional habitat as soon as possible.

**Plants**

No efforts have been made specifically to maintain or restore the community structure, species composition and ecological processes of special status plant species habitat. However, the reintroduction of fire as an ecosystem process through the prescribed fire program may indirectly accomplish this objective since special status plant species are similarly adapted to fire as other plant species in the plant community of which they are a component.

Known sites of S & M species are buffered to protect the area from ground disturbing activities.

**Conclusions:**

Long-term ecosystem health is addressed in management of the timbered land and rangelands.

## Cultural Resources Including American Indian Values

(RMP, Appendix O, page O-14 - O15, and Appendix R, page R-1)

### Expected Future Conditions and Outputs

- Identification of cultural resource localities for public, scientific, and cultural heritage purposes.
- Consideration and protection of cultural resource values for future generations.
- Provision of information on long-term environmental change and past interactions between humans and the environment.
- Fulfillment of responsibilities to appropriate American Indian groups regarding heritage and religious concerns.

### Implementation Monitoring

**Monitoring Question 1:** Are cultural resources being addressed in deciding whether or not to go forward with forest management and other actions? During forest management and other actions that may disturb cultural resources, are steps taken to adequately mitigate disturbances?

**Monitoring Requirements:** At least 20 percent of the files on each year's timber sales and other relevant actions (e.g., rights-of-way, instream structures) will be reviewed annually to evaluate documentation regarding cultural resources and American Indian values in light of requirement, policy and NFP Record of Decision Standards and Guidelines, and RMP management direction. If mitigation was required, review will ascertain whether such mitigation was incorporated in the authorization document and the actions will be reviewed on the ground after completion to ascertain whether the mitigation was carried out as planned.

**Monitoring Performed:** Review of existing survey data for Bly Mountain and Grenada West timber sales.

**Findings (for Bly Mountain Timber Sale):** A review of existing data (Class I inventory) was conducted prior to harvest. It was found that the area was covered by a contract cultural resource inventory conducted in 1993 by the Center for Northwest Anthropology, Washington State University. Approximately 19 cultural sites were recorded during survey activity. An Archaeological Technician was sent to the area to relocate the sites. Once sites were relocated, fresh flagging was established and the site location/boundaries were downloaded into a geographical information system (GIS) database. During the monitoring efforts and project activities, three new sites were discovered and recorded. Because the sites would be avoided during harvest activities, a "no effect" determination was made in consultation with the State Historic Preservation Officer.

**Conclusion (for Bly Mountain Timber Sale):**

Cultural resources were addressed in deciding whether or not to go forward with the Bly Mountain Timber Sale.

**Findings (for Grenada West Timber Sale):** A review of existing data (Class I inventory) was conducted prior to harvest. It was found that the area was covered by one in-house and two contract cultural resource inventories. The in-house survey was conducted in 1990 and recorded four sites. Stepp Consulting and Southern Oregon State College (SOSC) surveyed the rest of the project area under contract. Stepp Consulting Surveyed in 1996 and recorded eight sites. SOSC also surveyed in 1996 and found one site. An Archaeological Technician was sent to the area to relocate the sites. Once sites were relocated, fresh flagging was established and the site location/boundaries were downloaded into a GIS database. Because the sites would be avoided during harvest activities, a “no effect” determination was made in consultation with the State Historic Preservation Officer. No additional sites were discovered during monitoring or project activities.

**Conclusion (for Grenada West Timber Sale):**

Cultural resources were addressed in deciding whether or not to go forward with the Grenada West Timber Sale.

**Monitoring Question 2:** What mechanisms have been developed to describe past landscapes and the role of humans in shaping those landscapes?

**Findings:** No formal mechanisms were developed or employed during FY 2000 to describe past landscapes and the role of humans in shaping those landscapes. Site location data was collected during archaeological inventory and transferred into the geographic information system. This information will be used to analyze site location patterning with respect to current environmental variables and may prove useful for detecting human/environment interaction during the relatively recent past.

**Conclusion:** Due to limited funding and Klamath Tribal concerns, no archaeological excavations were conducted on lands administered by the Klamath Falls Field Office. Excavations often provide important data that can be used to interpret the roles humans have played in shaping past environments.

**Monitoring Question 3:** What efforts are being made to work with American Indian groups to accomplish cultural resource objectives and achieve goals outlined in existing memoranda of understanding and develop additional memoranda as needs arise?

**Findings:** The BLM consults with the Klamath Tribes on projects that could potentially impact cultural resources and Tribal values. Extensive consultation has been conducted for projects of serious concern to the Klamath Tribes. A Draft Memorandum of Understanding (Agreement) was developed to foster increased communication between the Klamath Tribes and the BLM, but has yet to be signed by the Klamath Tribes.

**Monitoring Question 4:** What public education and interpretive programs were developed to promote appreciation of cultural resources?

**Findings:** Cultural resource specialists gave presentations at a high school career day, to an elementary school class, and for a group of foster children on Fishing Day.



### Expected Future Conditions and Outputs

- Preservation or retention of the existing character of landscapes on BLM-administered lands allocated for Visual Resource Management Class I and II management; partial retention of the existing character on lands allocated for Visual Resource Management Class III management and major modification of the existing character of some lands allocated for Visual Resource Management Class IV management.
- Continuation of emphasis on management of scenic resources in selected high-use areas to retain or preserve scenic quality.

### Implementation Monitoring

**Monitoring Question 1:** Are visual resource design features and mitigation methods being followed during timber sales and other substantial actions in Visual Resource Management Class II, III, and IV areas?

**Monitoring Requirements:** Twenty percent of the files for timber sales and other substantial projects in Visual Resource Management Class II and III areas will be reviewed to ascertain whether relevant design features or mitigating measures were included.

**Monitoring Performed:** All fiscal year 2000 timber sales and other substantial projects.

**Findings:** The Barnes Valley Creek 3C Road crossing construction project began in 2000. The area contains VRM Class II lands. During the EA review it was determined that no additional project measures were necessary to meet VRM Class II guidelines.

The Riparian Thinning project (EA No. OR-014-11), for lands within the Spencer Creek watershed, contains VRM Class II areas. During the EA review it was determined that no additional project measures were necessary to meet VRM Class II guidelines.

The Clover Hookup Timber Sale for lands within the Spencer Creek watershed, contains VRM Class II and III areas. A review of the sale, proposed in the Lower Spencer Creek Forest Health Treatments EA, incorporated special design features to protect visual resources within VRM Class II and III areas along Spencer Creek.

The Slim Chicken Timber Sale, for lands east of the Klamath River canyon, contains VRM Class III areas. A review of the sale, proposed in the Topsy/Pokegama/Hamaker Forest Health Treatments EA determined that no additional project measures were necessary to meet VRM Class III guidelines.

The Grenada West timber Sale, for lands south and east of the Klamath River canyon, contains VRM Class III areas. A review of the sale, proposed in the Topsy/Pokegama/Hamaker Forest Health Treatments EA, determined that no additional project measures were necessary to meet VRM Class III guidelines. A small portion of the sale area, within the viewshed of the Klamath River canyon (a VRM Class II area), will retain a greater forest density to retain the existing character of the landscape.

Several minor project EAs for prescribed fire were reviewed and determined to need no additional mitigation or project design features

**Conclusion:** Visual resource design features and mitigation methods are being followed during timber sale planning and other substantial actions in Visual Resource Management Class II, III, and IV areas to ameliorate any adverse impacts from those projects on visual resources.

## **Rural Interface Areas** (RMP/ROD, Appendix K, page K-17)

### **Expected Future Conditions and Outputs**

- Consideration of the interests of adjacent landowners, including residents, during analysis, planning, and monitoring related to managed rural interface areas. These areas are defined as public lands within 1/4 mile of identified rural interface areas zoned for one to twenty acre lots. (These interests include personal health and safety, improvements to property and quality of life.)

### **Implementation Monitoring**

**Monitoring Question 1:** Are design features and mitigation measures developed and implemented to avoid/minimize impacts to health, life and property and quality of life and to minimize the possibility of conflicts between private and federal land management?

**Monitoring Requirements:** At least 20 percent of all actions within the identified rural interface areas will be examined to determine if special project design features and mitigation measures were included and implemented as planned.

**Monitoring Performed:** Monitoring the Bly Mountain timber sale near Klamath Forest Estates cannot be conducted until the sale is completed. The sale was not logged in FY 1999 as anticipated. The sale must be completed in FY 2001. No projects have been completed in the Harpold Dam or the Grenada Butte rural interface areas.

**Findings:** Monitoring of the Bly Mountain timber sale must wait until the sale has been completed. Prior to preparing the timber sale, silviculture prescription and associated environmental documents adjacent landowners were contacted and requested to identify their concerns about the proposed sale. The primary concern expressed was how the timber stands would look after the trees were removed. A demonstration area inside an earlier burn was set up to show residents what trees would be removed and what the timber sale areas appearance would be several years after the prescribed burn. Other concerns identified included: the unmerchantable material remaining after harvest for firewood should be made available for public use, and, the road maintenance association was concerned about potential damage occurring from timber hauling. The timber purchaser would be required to maintain the road.

**Conclusion:** Post treatment monitoring of the timber sale is recommended to compare residual timber stand characteristics with rural interface area objectives and the silvicultural prescription. Consultation with neighboring landowners will be beneficial to obtain their views on the prescribed fire and timber sale treatments. Measuring the amount of fuel reduction accomplished by the prescribed burns will assist in future prescribed fire actions.

## **Recreation** (RMP/ROD, Appendix K, page K-19)

### **Expected Future Conditions and Outputs**

- Provision of a wide range of developed and dispersed recreation opportunities that contribute to meeting projected recreation demand within the planning area.
- Provision of non-motorized recreational opportunities and creation of additional opportunities consistent with other management objectives.

### **Implementation Monitoring**

**Monitoring Question 1:** What is the status of the development and implementation of recreation plans?

**Findings:** The BLM has initiated the analysis for the upper Klamath River management plan. Recreation management is a component of this river plan. A draft river plan/environmental impact statement is scheduled to be released in Fall 2001. A memorandum of understanding has been signed with the Oregon State Parks and Recreation Department on joint management of the Wild and Scenic River/State Scenic Waterway. A separate section of the river plan will address State Scenic Waterway issues.

Analysis of issues and projects has been completed for the Hamaker Mountain SRMA, and has been started for the Stukel Mountain SRMA.

Site-specific design and planning along with ongoing facility upgrades and renovations continue to be implemented through Recreation Pipeline Restoration Funds under the existing Klamath Falls RMP and Wood River Wetland RMP.

## **Special Areas** (RMP/ROD, Appendix K, page K-13)

### **Expected Future Conditions and Outputs**

- Maintenance, protection, and/or restoration of the relevant and important values of the special areas which include: Areas of Critical Environmental Concern, Research Natural Areas, and Environmental Education Areas.
- Preservation, protection, or restoration of native species composition and ecological processes of biological communities in research natural areas.
- Retention of existing research natural areas and existing areas of critical environmental concern that meet the test for continued designation. Retention of other special areas. Provision of new special areas where needed to maintain or protect important values.

### **Implementation Monitoring**

**Monitoring Question 1:** Are BLM actions and BLM authorized actions/uses near or within special areas consistent with resource management plan objectives and management direction for special areas?

**Monitoring Requirement:** Annually, the files on all actions and research proposals within and adjacent to special areas will be reviewed to determine whether the possibility of impacts on areas of critical environmental concern values was considered, and whether any mitigation identified as important for maintenance of areas of critical environmental concern values was required. If mitigation was required, the relevant actions will be reviewed on the ground, after completion, to ascertain whether it was actually implemented.

**Monitoring Performed:** Review of program and actions for consistency with RMP objectives and direction.

**Findings:** The Wood River ACEC has a specific prescriptive plan, developed in conformance within a separate RMP that provides overall management direction and resource use constraints. The project has its own published annual monitoring report, covering a wide range of resources.

A prescribed fire originally planned for FY 2000 will be implemented in 2001 and allowed to burn into the Old Baldy RNA/ACEC. Prescribed fire effects monitoring plots were established in 1999 according to protocols developed by the National Park Service, and pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP). The prescribed fire is being implemented by the Klamath Falls Resource Area through a service contract.

Treatment of noxious weed populations is conducted annually within the Upper Klamath River ACEC. An integrated management approach is used which includes chemical, mechanical and biological methods. Control of noxious weeds would help maintain and restore the biological, recreational and scenic resources for which the area was designated.

**Conclusions:** BLM actions and BLM authorized actions/uses near or within special areas are consistent with

resource management plan objectives and management direction for special areas.

**Monitoring Question 2:** What is the status of the preparation, revision, and implementation of areas of critical environmental concern management plans?

**Findings:** The Wood River ACEC has a specific prescriptive plan, developed in conformance within a separate RMP that provides overall management direction and resource use constraints. Many of the restoration and interpretation actions have been initiated or completed, including river re-channelization, interpretive displays, and scenic view areas. Implementation and management direction has been closely coordinated with the Klamath Tribes. The project has its own published annual monitoring report, covering a wide range of resources.

Management of the Upper Klamath River ACEC will be addressed in the management plan for Wild and Scenic River values within the State of Oregon Wild and Scenic River/State Scenic Waterway plans beginning in FY 2000 and completed in FY 2002.

The Old Baldy RNA/ACEC was designated to fill the southern Cascades chaparral plant community cell. This community is thought to be partially maintained by fire. Therefore, prescribed fire planned for FY 01 will be allowed to burn into the RNA. Prescribed fire effects monitoring plots were established in 1999 according to protocols developed by the National Park Service, and pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP). These actions will help maintain and protect the resource values for which the area was designated.

No other management plans for ACECs have been developed. However, all ACECs are managed to protect the relevant and important values which were identified when they were evaluated and designated during the RMP process. General management direction for each special area is given in the Klamath Falls Resource Area Record of Decision and Resource Management Plan and Range Program Summary (pp. 41 - 42)

**Conclusions:** Management plans for some ACECs are or have been developed and implemented.

**Monitoring Question 3:** What environmental education and research initiatives and programs are occurring in the research natural areas and environmental education areas?

**Findings:** The Old Baldy RNA/ACEC includes additional lands within the Medford District. A prescribed fire planned for FY 01 will be allowed to burn into the RNA. Prescribed fire effects monitoring plots were established in 1999 according to protocols developed by the National Park Service to study the effects on fire on this plant community. These pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP).

The Clover Creek Environmental Education Area is the site of an annual Forestry School Tour. Sixth graders from all over Klamath County learn about reforestation, tree identification, soil and water conservation, fire, wildlife and outdoor recreation. This three-day event includes about 80 kids and a number of agencies including BLM, USFWS, USFS, ODFW, ODF and several private and county groups.

**Conclusions:** Environmental education and research initiatives and programs are occurring in the research natural areas and environmental education areas.

**Monitoring Question 4:** Are existing BLM actions and BLM authorized actions and uses not consistent with management direction for special areas being eliminated or relocated?

**Findings:** BLM actions and BLM authorized actions/uses near or within special areas are consistent with resource management plan objectives and management direction for special areas.

**Monitoring Question 5:**

- A) Are actions being identified which are needed to maintain or restore the important values of the special areas?
- B) Are the actions being implemented?

**Findings:** The Wood River ACEC has a specific prescriptive plan, developed in conformance within a separate RMP that provides overall management direction and resource use constraints. Many of the restoration and interpretation actions have been initiated or completed, including river re-channelization, interpretive displays, and scenic view areas. Implementation and management direction has been closely coordinated with the Klamath Tribes. The project has its own published annual monitoring report, covering a wide range of resources.

The Old Baldy RNA/ACEC was designated to fill the southern Cascades chaparral plant community cell. This community is thought to be partially maintained by fire. Therefore, prescribed fire planned for FY 2001 will be allowed to burn into the RNA. Prescribed fire effects monitoring plots were established in 1999 according to protocols developed by the National Park Service, and pre-burn data were collected by a researcher from the Oregon Natural Heritage Program (ONHP). These actions will help maintain and protect the resource values for which the area was designated.

Treatment of noxious weed populations is conducted annually within the Upper Klamath River ACEC. An integrated weed management approach is used which includes chemical, mechanical and biological methods. Control of noxious weeds would help maintain and restore the biological, recreational and scenic resources for which the area was designated.

**Conclusions:** Actions are being identified which are needed to maintain or restore the important values of the special, and the actions are being implemented.

## **Wild and Scenic Rivers** (RMP/ROD, Appendix K, page K-16)

### **Expected Future Conditions and Outputs**

- Protection of the Outstandingly Remarkable Values of designated components of the national Wild and Scenic Rivers System through the maintenance and enhancement of the natural integrity of river-related values.
- Protection of the Outstandingly Remarkable Values of eligible/suitable Wild and Scenic Rivers and the maintenance or enhancement of the highest tentative classification pending resolution of suitability and/or designation.
- Designation of important and manageable river segments suitable for designation where such designation contributes to the National Wild and Scenic Rivers System.

### **Implementation Monitoring**

**Monitoring Question 1:** Are BLM actions and BLM authorized actions consistent with protection of the Outstandingly Remarkable Values of designated or suitable rivers?

**Monitoring Requirements:** Annually, the files on all actions and research proposals within and adjacent to Wild and Scenic River corridors will be reviewed to determine whether the possibility of impacts on the Outstandingly Remarkable Values was considered, and whether any mitigation identified as important for maintenance of the values was required. If mitigation was required, the relevant actions will be reviewed on the ground, after completion, to ascertain whether mitigation was actually implemented.

**Monitoring Performed:** The KFRA had one prescribed burn planned FY 2000 on a parcel of land adjacent to the Upper Klamath Wild and Scenic River corridor. The burn was postponed until FY 2001. Several overhanging hazard trees were removed due to safety concerns, along the road leading from J.C. Boyle Dam to the powerhouse. BLM recreation staff members meet periodically with upper Klamath River outfitters and guides and staff members of PacifiCorp, the utility company that operates the hydroelectric plants above and below the designated Wild & Scenic segment. In FY 2000, a meeting was held in April to coordinate management activities, especially the timing, volume, and duration of water releases during the peak rafting season. A post-season meeting was held in November to review how the season went for the outfitters and to discuss the river management plan.

**Findings:** No prescribed burns or other land management actions occurred within the W & S river corridor. Removal of hazard trees is consistent with providing for public safety and met the objectives for maintaining Scenic resources. Whitewater rafting is consistent with the objectives of a wild and scenic river.

### **Monitoring Question 2:**

- A) Are existing plans being revised to conform to Aquatic Conservation Strategy Objectives?
- B) Are revised plans being implemented?

**Findings:** An EIS for the Klamath River Management Plan is being developed for the eleven-mile portion of the Klamath River that is within the KFRA to conform with Aquatic Conservation Strategy Objectives. This EIS will be completed in approximately two years (2002).

**Monitoring Question 3:** Do actions and plans address maintenance or enhancement of the outstandingly remarkable values?

**Monitoring Requirements:** Annually, the files on all actions and research proposals within and adjacent to Wild and Scenic River corridors will be reviewed to determine whether the possibility of impacts on the Outstandingly Remarkable Values was considered, and whether any mitigation identified as important for maintenance of the values was required. If mitigation was required, the relevant actions will be reviewed on the ground, after completion, to ascertain whether mitigation was actually implemented.

**Monitoring Performed:** The resource area had no prescribed burns or other land management actions within the W & S river corridor in FY 2000. The removal of hazard trees along the road leading from J.C. Boyle Dam to the powerhouse did not require any mitigation as a small number of individual, scattered trees were removed, and did not negatively affect Scenic River values.

**Findings:** The removal of hazard trees due to safety concerns was planned and monitored to maintain Scenic values.

## **Socioeconomic Conditions** (RMP/ROD, Appendix K, page K-18)

### **Expected Future Conditions and Outputs**

- Contributions to local, state, national, and international economies through sustainable use of BLM-managed lands and resources and use of innovative contracting and other implementation strategies.
- Provision of amenities for the enhancement of communities as places to live and work.

### **Implementation Monitoring**

**Monitoring Question 1:** What strategies and programs have been developed, through coordination with state and local governments, to support local economies and enhance local communities?

**Findings:** Since 1991, the resource area has been participating in a unique partnership of government and private recreation and tourism providers: Klamath/Lake/Modoc/Siskiyou County Outdoor Recreation Working group. The group meets approximately every two months, sharing information on projects, and events, exploring new opportunities for partnerships and coordination, and promotion of local tourism. For FY 2000, there was \$8,000.00 provided to produce a series of recreation activity brochures, highway rest stop displays, and tear-off sheet maps for visitors to the southern Oregon, northern California region. Other outcomes of this group include a detailed tourism marketing analysis, promotion of National Scenic Byways, and a spin-off group of front line tourist contacts that meets monthly to discuss and share regional recreation/tourism events (Answer People). The Wood River Wetland recreation pipeline project has been completed and when completed the Hamaker Mountain Sno-park. Both of these projects will enhance tourism. The Hatfield Working Group, a citizen group commissioned by Senator Mark

Hatfield to identify short and long-term restoration opportunities in the Klamath Basin and Northern California above Iron Gate Dam have identified and found funding sources for implementation of many restoration opportunities within the Klamath Basin.

The Klamath Falls Resource Area has coordinated with state governments in diverse activities such as recreation and timber sale planning, fish habitat inventory, water quality monitoring, hazardous material cleanup, air quality maintenance, and wildfire suppression.

**Monitoring Question 2:** Are RMP implementation strategies being identified that support local economies?

**Findings:** The majority of the support for local economies is described in the Jobs-in-the-Woods section of the Northwest Forest Plan. Recreation facilities in such areas including the upper Klamath River and several campgrounds (Surveyor, Gerber, and Topsy) received infrastructure enhancements to improve visitor experiences and meet user expectations. Additional enhancements such as construction of new trails, designated back county by-ways, interpretive displays, and brochures will be developed as funding allows.

**Monitoring Question 3:** What is the status of planning and developing amenities that enhance local communities, such as recreation and wildlife viewing facilities?

**Findings:** Reference Monitoring Question Findings in # 1 and 2 above, and in the sections addressing Recreation, Wildlife and the Wood River Wetland area accomplishments in this document.

## **Timber Resources** (RMP/ROD, Appendix K, page K-20)

### **Expected Future Conditions and Outputs**

- Provision of a sustained yield of timber and other forest products.
- Reduction of the risk of stand loss due to fires, animals, insects, and diseases.
- Provision of salvage harvest for timber killed or damaged by events such as wildfire, windstorms, insects, or disease, in a manner consistent with management objectives for other resources.
- Maintenance or restoration of healthy ecosystems while providing for the harvest of timber and other forest products in balance with other resource values and needs.

### **Implementation Monitoring**

**Monitoring Question 1:** By land-use allocation, how do timber sale volumes, harvested acres, and the age and type of regeneration harvest stands compare to the projections in the SEIS ROD Standards & Guidelines and RMP management objectives?

**Monitoring Performed:** Below is a summary by land use allocation of the timber volume and acreage that has been harvested in the KFRA since the signing of the RMP on June 2, 1995. The volume and acres are summarized by year, harvest method, land allocation, RMP/EIS Assumed Average, and Percent of Assumed average. Departures between actual treatments and assumed averages are discussed below. All KFRA westside lands are in the Southern General Forest Management Area (SGFMA). All KFRA eastside lands are outside the boundaries of the Northwest Forest Plan.

**Findings:** The volume and acres of FY 2000 timber sales are displayed in Table 40.

**Table 40. Timber Sale Volume and Acres By Land Allocation and Harvest Method**

Entire Resource Area										
Volume million board feet (MMBF)										
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	1995- 2000 Total	1995-2000 Annual Average	1995-2000 Average of RMP/EIS ASQ***	Percent of Average ASQ
Total Timber Sale Program	4.25	7.25	6.67	5.93	3.60	9.46	37.15	6.97	n/a	
Total Matrix Timber Sales	4.131	7.162	6.624	5.882	3.546	9.25	36.60	6.87	6.31	109%
Total All Reserves	0.119	0.09	0.04	0	0.05	0.18	0.49	0.09	n/a	
Total AMA Timber Sales	n/a	n/a	n/a	n/a	n/a	0.00	0.00	0.00	n/a	
Total Key Watersheds	3.12	6.99	6.09	2.58	2.37	4.70	25.85	4.85	3.25	149%
Total Regeneration Harvest	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.03	0.87	3%
Total Density Management*	3.13	4.01	1.80	5.44	1.06	7.36	22.80	4.28	5.46	78%
Total Mortality Salvage	0.99	3.15	4.78	0.45	2.49	1.92	13.77	2.58	n/a	258%
Total Small Sales	0.00	0.00	0.04	0.00	0.00	0.02	0.07	0.01	n/a	
Total R/W Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	
Total UMLSR	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	n/a	
Total Density Management Riparian Reserves	0.06	0.08	0.02	0.04	0.05	0.05	0.31	0.06	n/a	
Total Admin Withdrawal	0.1	0.00	0.00	0.00	0.00	0.03	0.1	0.02	n/a	
Acres										
Total Timber Sale Program	1859	2459	3761	1926	906	3089	14000	2627	n/a	
Total Matrix Timber Sales	1793	2440	3759	1919	866	3035	13812	2591	1261	206%
Total All Reserves	66	19	2	7	40	54	188	35	n/a	
Total Key Watersheds	793	2440	3550	440	210	1214	8647	1622	n/a	
Total Regeneration Harvest	0	0	0	0	0	39	39	7	131	6%
Total Density Management	793	440	209	1869	606	2780	6697	1256	1097	115%
Total Mortality Salvage	1000	2000	3550	50	260	270	7130	1338	n/a	
Total Small Sales	0	0	0	0	0	0	0	0	n/a	
Total R/W Clearing	2	0	0	0	0	0	2	0	n/a	
Total UMLSR	0	0	2	0	0	0	2	0	n/a	
Total Density Management Riparian Reserves	36	19	0	7	40	34	136	26	n/a	
Total Admin Withdrawals	30	0	0	0	0	20	50	9	n/a	
* Density Management - All partial harvests, except salvage, including commercial thinning and selective cutting in Matrix and Riparian Reserves. ** 1995-2000 Annual Average - Since the RMP was approved in June of 1995, and implementation did not begin until the final 1/3 of FY95, the annual average is calculated by full fiscal years for 1996-2000 and 1/3 fiscal year for 1995 *** ASQ = Allowable Sale Quantity based on RMP from lands allocated to planned, sustainable harvest.										



### Timber Departures from the RMP

Table 41, below, compares projected volume and acres to actual volume and acres harvested to date. On the westside, approximately 33.7 MMBF (61 percent of the decadal projection) has been harvested on 12,003 acres (232 percent of the decadal projection). On the eastside, approximately 2.8 MMBF (75% of the decadal projection) has been harvested on approximately 1,865 acres (143 percent of decadal projection). There is a significant departure between projected versus actual acres treated. A combination of factors has contributed to this departure. Only one regeneration harvest unit has been implemented in the first five years on either the westside or eastside. Under the RMP, approximately 131 acres were planned per year on the westside and 33 acres on the eastside.

<b>Table 41. Comparison of Harvest Volume and Acres (Projected Versus Actual)</b>				
<b>Harvest Method</b>	<b>Projected Vol. MMBF</b>	<b>Actual Vol. MMBF</b>	<b>Projected Acres</b>	<b>Actual Acres</b>
<b>Westside</b>				
Density Management		17.2		
Selective Cutting		2.8		
Patch Cuts		1.0		
<u>Small Sales</u>		<u>0.07</u>		
Total	27.2	21.07	4,595	5,852
Regeneration Harvests	4.3	0.153	566	39
Mortality Salvage	0	12.4	0	6,110
R/W Clearcut	0	0.004	0	2
<b>Totals</b>	<b>31.5</b>	<b>33.7</b>	<b>5,161</b>	<b>12,003</b>
<b>Eastside</b>				
Density Mgt./Com. Thinning/Uneven-aged Mgt./Small sales	1.5	1.7	1,165	845
Regeneration Harvests	0.189	0	143	0
Mortality Salvage	0	1.1	0	1,020
<b>Totals</b>	<b>1.689</b>	<b>2.8</b>	<b>1,308</b>	<b>1,865</b>

There are two primary reasons for limited regeneration harvests to date. First, with the emphasis on forest health concerns, there has been a higher priority to thin the numerous overstocked, drier, low elevation middle-aged stands (30 to 80 years old), to improve the resiliency of these stands. Because of the high densities in these stands, much of the residual old growth, particularly the larger pines, are at increased risk to insect attacks and stand replacing fires. As a result, harvest treatments have been concentrated in these high-risk stands. Second, many of the older stands (80+ years) continue to experience single-tree and small clump mortality from primarily bark beetles. This mortality has been scattered across much of the resource area. Much of the on-going mortality is in excess of the projections in the Trim Plus analysis and in excess of snag recruitment needs. Therefore, the Klamath Falls Resource Area has chosen to offer and/or negotiated five mortality salvage type sales to capture the on-going excess mortality. Approximately 6,110 acres (westside) and 1,020 acres (eastside) have received a mortality salvage treatment thus far. The treatments have varied from removal of a single tree per acre up to a small (one to three acre) patch cut in a heavy windthrow area. Approximately 12.4 MMBF (westside) and 1.1 MMBF (eastside) of timber has been mortality salvaged to date, which amounts to removal of about 1.5 MBF to 2.0 MBF per acre. In contrast, a regeneration harvest is likely to average 10 MBF to 20 MBF per acre. Monitoring was completed in 1998 on one of

the westside mortality salvage sales. One of the beneficial impacts documented and submitted by the review team was maintenance of late-successional habitat characteristics upon completion of the treatment. The impacts of treating more acres with a lighter harvest level such as a mortality salvage versus treating less acres with a higher harvest level (regeneration harvests) continues to be addressed by the resource area interdisciplinary team. To date, the interdisciplinary team has chosen to continue mortality salvage treatments despite the departures from the RMP projections.

Eight density management/selective cutting sales have been offered through September 2000 (6 westside and 2 eastside). These sales amount to approximately 5,936 acres and 21.2 MMBF on the westside and 1.7 MMBF and 845 acres on the eastside. On the westside, the average volume per acre removed has been approximately 3.6 MBF/acre, varying from 5.3 MBF/acre on Too Frosty Timber Sale to 2.2 MBF/acre on Grenada East Timber Sale. On the westside, the RMP projected treating approximately 828 acres per year (4,413 acres to date) using density management/commercial thinning/ uneven-aged management prescriptions and removing approximately 6.1 MBF/acre. There has been some differences between the actual amount of volume removed and projected amounts on a per acre basis.

One reason for this difference is that sales proposed to date have been in younger, higher risk stands that have lower volumes per acre. The forest health emphasis has generated treatments within the younger stands where the average diameter is probably 10-12". These stands are primarily the lower elevation stands that experience higher mortality rates. Another reason for volume per acre differences is the initial interpretation for implementing the 16 to 25 large green trees per acre standard and guide. This standard and guide is intended for regeneration harvest units. The KFRA clarified the interpretation of this standard and guide in its 1999 Annual Program Summary (See Plan Maintenance Section of 1999 APS). Initial interpretation of this standard and guide was that the 16 to 25 large green trees per acre retention applied to all type of harvests, not only regeneration harvests.

In summary, the acres treated exceed those projected in the RMP, primarily due to mortality salvage type harvest treatments that treat a large number of acres but with a lighter treatment. The impacts of treating more acres with a lighter treatment is addressed on a yearly basis by the interdisciplinary team. Initial post-harvest monitoring results indicate that late-successional habitat characteristics have been retained in many of the treated areas including not only the mortality salvage harvests, but in much of the density management harvests as well. Additionally, post-harvest monitoring of two known pairs of northern spotted owls has revealed that the owls actually nested in harvested areas and are continuing to use these harvested areas for nesting, roosting, and foraging habitat.

**Conclusion:** RMP requirements have been met to date. Mortality salvage volume and acres is being implemented in lieu of Regeneration Harvests. Overall impacts are within those analyzed in the FEIS. See Matrix Section and Discussion of Discrepancy section for a complete discussion on findings to date.

**Monitoring Question 2:** Were the silvicultural (for example, planting with genetically selected stock, fertilization, release, and thinning) and forest health practices anticipated in the calculation of the expected sale quantity, implemented?

**Monitoring Requirements:** An annual district wide report will be prepared to determine if the silvicultural and forest health practices identified and used in the calculation of the probable sale quantity were implemented. This report is summarized in this Annual Program Summary.

**Findings:** Completed silvicultural treatments are shown in Table 1 of this Annual Program Summary and Table 42, below. Calculation of the ASQ was based on successful planting of regeneration units and normal stand development unimpeded by excessive vegetative competition or animal damage, and also taking into consideration precommercial thinning when needed. (Yield gains were not assumed for planting genetically selected trees, fertilization, or pruning.)

<b>Table 42. Silviculture Monitoring Projects</b>			
<b>Westside</b>		<b>Eastside</b>	
<b>Treatment/Total acres</b>	<b>Project/acres</b>	<b>Treatment/Total acres</b>	<b>Project/acres</b>
Vegetation control, mechanical/hand Total = 400 acres	Summit Point/62 acres Chase Mountain/41 acres Kent Circle/91 acres Spencer Swamp/51 acres Cold Creek/60 acres Buck Mountain/95 acres		
Pre-commercial thinning Total = 144 acres	Muddy Tom TS/56 acres Grenada Butte/88 acres	Pre-commercial thinning Total = 121 acres	Stukel Mtn./121 acres
Understory reduction Total = 419 acres	East Grenada TS 419 acres		
<b>Tree planting units</b> Total = 74 acres	Frosty TS/23 acres Kakapo TS/41 acres Spencer Hookup Rd/1 acre Rehab old roads/9 acres	<b>Tree planting units</b> Total = 23 acres	Bryant Mtn./23 acres
<b>Site preparation</b> Total = 28 acres	Frosty TS/28 acres		

All timber sale silvicultural prescriptions and watershed analyses considered forest health practices. In each prescription, retention and maintenance of underrepresented species was emphasized to help increase the pine species composition in stands where historically, the composition of pine was higher. These are generally located in the mixed conifer forest types in the Spencer Creek and Jenny Creek drainages. Even in the mortality salvage sales, some thinning was done around the larger old growth for enhancement purposes. Elevated fuel level concerns were primarily addressed in the density management sale prescriptions. All prescriptions were designed to leave harvested stands with reduced fuel loads, with a lower risk for a stand replacing fire, and in a condition where post-project underburns could be implemented in the stand.

**Conclusion:** Silvicultural and forest health practices were anticipated and are being implemented. The excess mortality that has occurred was not anticipated and as a result, a modification in treatment prescriptions has been necessary.

## **Special Forest/Natural Products** (RMP/ROD, Appendix K, page K-21)

### **Expected Future Conditions and Outputs**

- Production and sale of special forest/natural products when demand is present and where actions taken are consistent with primary objectives for the land use allocation.
- Utilization of the principles of ecosystem management to guide the management and harvest of special forest products.

### **Implementation Monitoring**

**Monitoring Question 1:** Is the sustainability and protection of special forest/natural product resources ensured prior to selling special forest products?

**Findings:** To date, sustainability of special forest products has not been an issue because the demand has been primarily on special/natural products, which can be readily found. Permits have been issued for wood products

including; firewood, sawlogs, posts, and poles. Additional special forest products that have been sold include; juniper boughs, Christmas trees, mushrooms, greenery, lichen, cones, and transplants. The only permit request denied to date has been the cutting of incense cedar boughs. The denial was due to the on-going mortality of incense cedar in many stands south of Highway 66. When selling lichens, bryophytes, and certain fungi, resource specialist are consulted prior to issuing any unique permits.

With the recent shortage of power concerns throughout the west, there are some on-going discussions and plans for additional small co-generation power plants that would be fueled by biomass. The KFRA has two potential sources of biomass that could be utilized for fuel. One source would be western juniper trees that have encroached on thousands of acres of rangeland. Another source would be residual slash as a result of various treatments including; logging operations, precommercial thinning, hazardous fuel reduction treatments for fire, and watershed restoration and wildlife projects that involve juniper cutting. The KFRA analyzed treating up to 1,000 acres per year of western juniper in the RMP in addition to range allotment improvements where juniper cutting was also analyzed. The capability of providing western juniper on a sustained basis for power plants and to meet the needs of the public for personal use as well, may eventually need to be addressed.

**Conclusion:** At the present time, based on the different resource evaluations completed thus far, and permits issued to date, sustainability of Special Forest Products is not threatened.

**Monitoring Question 2:** What is the status of the development and implementation of specific guidelines for the management of individual special forest/natural products?

**Findings:** The Klamath Falls Resource Area received from the Oregon State Office an updated Handbook 5400-2 addressing Special Forest Products in June of 1995. In addition, the Klamath Falls Resource Area individually develops specific harvesting guidelines for products to ensure sustainability and permit compliance. For example, for bough harvest, permittees are asked to follow specific guidelines to assure survival of the tree from which the boughs are removed. In addition, specific guidelines are written for harvesting mushrooms to ensure sustainability. All permit issuances consider weather conditions to minimize road damage and fire risk.

**Conclusion:** Based on field experience, and the small number of permits issued for products, sustainability of Special Forest Products in the immediate future is assured.

## **Grazing Management** (RMP/ROD, Appendix K, page K-22)

### **Expected Future Conditions and Outputs**

- The livestock and wild horse grazing programs will be managed under the principles of multiple use and sustained yield. Monitor the existing grazing allotments and the wild horse herd management area in compliance with the established “Coordinated Monitoring and Evaluation Plan for Grazing Allotments” for the Klamath Falls Resource Area.
- Monitoring data will be the foundation to support adjustments in the management of grazing use by livestock and wild horses. Evaluation of the monitoring data, in relation to the identified allotment objectives in this Proposed Resource Management Plan as well as future standards and guidelines, will be completed through a team of interdisciplinary resource specialists, with public review as appropriate.

### **Implementation Monitoring**

**Monitoring Question 1:** Are allotments and herd management area goals and objectives being achieved with current management as specified on an allotment specific basis?

**Monitoring Performed:** Rangeland monitoring studies have been completed during FY 1995-2000 in accordance with KFRA’s *Coordinated Monitoring and Evaluation Plan for Grazing Allotments*. This directs the most monitoring emphasis on high priority (management category “I”) allotments; in particular the 3 allotments that are under ESA Section 7 consultation. This includes various rangeland condition, trend, and utilization studies; riparian classification, condition, and photo trend studies; actual grazing use supervision and information; Ecological Site

Inventory (though not actually monitoring, this survey does help support and direct the other rangeland monitoring); and other rangeland monitoring studies as needed. The Pokegama HMA was aerial and ground censused in March 2000. 55 wild horses were counted.

**Findings:** Rangeland monitoring studies established, read, and re-read over the past 9 grazing seasons (FY 1992-2000) have found that grazing use on priority allotments is within land use planning and other pertinent resource objective levels and requirements. Priority allotments include the 14 “I” category, 4 “M” category, and 1 “C” category allotments (allotment categorization is explained in the KFRA ROD/RMP - pages H-69-70). The combined acreage of these priority allotments comprises 60% of the KFRA grazing land base. Recent watershed analysis efforts, allotment evaluations, and Rangeland Health Standards Assessments have supported the above finding. However, the amount of information collected is more than can be summarized in this APS; this information and the various evaluations and assessments are available at the KFRA.

For the Pokegama HMA, the herd was found to be above the determined Appropriate Management Level (AML) of 30 to 50 head. (The AML was established based on properly evaluated rangeland monitoring studies performed over time.) Because the AML was exceeded, a wild horse removal was necessary to get back to AML; this was accomplished by bait-trapping performed by Resource Area personnel in May/June 2000. 18 horses were removed and transported to the Burns, Oregon wild horse corrals for adoption via the Bureau’s Adopt-a-Horse program.

**Conclusion:** The answer to this monitoring question is “generally yes”, on a priority allotment basis. This means that allotments in the “I” and “M” categories, those that are identified for livestock use reductions in the RMP, are under ESA Section 7 consultation, contain important perennial streams, and/or have other critical resource issues, are receiving the most attention and management action and are at, or moving significantly towards, meeting Land Use Plan (LUP) objectives. The Pokegama HMA is also meeting LUP objectives and goals. Lower priority “C” allotments are generally also meeting the minimal objectives set for these areas. The currently ongoing process of assessing all allotments to ensure the meeting of the Standards for Rangeland Health will determine if allotments are meeting resource objectives, and if not, management will be adjusted to ensure the future meeting of objectives. This process, which began in 1999, is scheduled to extend through 2008; ten years as specified by current BLM policy and direction.

**Monitoring Question 2:** Are the appropriate standards and guidelines, applicable to livestock and wild horse grazing, being correctly applied and followed?

**Findings:** See response to #1 above.

**Monitoring Question 3:** Are rangeland improvement projects consistent with meeting the objectives of all resources addressed in this Resource Management Plan as well as the Aquatic Conservation Strategy and Late-Successional/District Designated Reserve objectives?

**Monitoring Performed:** Monitoring of rangeland improvements is done in conjunction with normal grazing use supervision and rangeland monitoring field visits to grazing allotments. This monitoring is typically to determine if a given rangeland improvement is functioning as it should, i.e. fence is intact, spring is flowing, etc. If not, the project is repaired or reconstructed by the BLM (typically maintenance of riparian projects), or the grazing user is notified and required to fix the problem if the project is their maintenance responsibility (grazing regulations at 43 CFR 4100). An estimated 20-25 grazing improvement projects are checked annually.

**Findings:** No existing rangeland improvements are known to conflict with the objectives stated in this monitoring question.

**Conclusion:** All rangeland projects (new or existing) are believed to be consistent with the meeting of the listed LUP objectives. If projects are found in the future that are inconsistent, they will be altered or removed. All future proposed projects will be reviewed to ensure consistency.

## **Noxious Weeds** (RMP/ROD, Appendix K, page K-23)

### **Expected Future Conditions and Outputs**

- Containment and/or reduction of noxious weed infestations on BLM-administered land using an integrated pest management approach.
- Avoidance of the introduction or spread of noxious weed infestations in all areas.

### **Implementation Monitoring**

**Monitoring Question 1:** Are noxious weed control methods compatible with Aquatic Conservation Strategy Objectives?

**Monitoring Requirements:** Review the files of at least twenty percent of each year's noxious weed control applications to determine if noxious weed control methods were compatible with Aquatic Conservation Strategy Objectives.

**Findings:** Noxious weed control applications in FY 2000 were conducted using an integrated pest management approach that includes manual, mechanical, chemical, and biological control methods. These methods are used in accordance with the Klamath Falls Resource Area Integrated Weed Control Plan (IWCP) and Environmental Assessment (EA)(OR-014-93-09), which is tiered to the Northwest Area Noxious Weed Control Program EIS (December 1985) and Supplement (March 1987), and are compatible with Aquatic Conservation Strategy Objectives.

## **Fire/Fuels Management** (RMP/ROD, Appendix K, page K-24)

### **Expected Future Conditions and Outputs**

- Provision of the appropriate suppression responses to wildfires in order to meet resource management objectives and minimize the risk of large-scale, high intensity wildfires.
- Utilization of prescribed fire to meet resource management objectives. (This will include, but not be limited to, fuels management for wildfire hazard reduction, restoration or desired vegetation conditions, management of habitat, and silvicultural treatments.)
- Adherence to smoke management/air quality standards of the Clean Air Act and State Implementation Plan standards for prescribed burning.

### **Implementation Monitoring**

**Monitoring Question 1:** Have analysis and planning been completed to allow some natural fires to burn under prescribed conditions?

**Findings:** No analysis and planning were completed for FY 2000 natural fires. BLM managers have not completed adequate planning or analysis to allow natural fires to burn under certain prescribed conditions.

**Monitoring Question 2:** Do wildfire suppression plans emphasize maintaining Late-Successional habitat?

**Findings:** Wildfire Situation Analyses will be prepared for all wildfire and suppression actions that escape initial attack.

**Conclusions:** In FY 2000 no wildfires escaped initial attack.

**Monitoring Question 3:** Are Wildfire Situation Analyses being prepared for wildfires that escape initial attack?

**Findings:** Wildfire suppression plans include protecting multiple resources including Late-Successional habitat. The plans and assessments for Late-Successional Reserves address this issue.

**Monitoring Question 4:** What is the status of interdisciplinary team preparation and implementation of fuel hazard reduction plans?

**Findings:** Fuels and Fire Management Plans have begun. Analysis is being done in conjunction with Late-Successional Reserve Assessments that is being completed by an interdisciplinary team. These LSR assessments will contain recommendations for each LSR as to fuel treatments. Some LSRs will require extensive actions, while others will receive no treatments at the present time.





# **GLOSSARY/ACRONYMS**



## Glossary/Acronyms

**Allowable Sale Quantity (ASQ)** - An estimate of annual average timber sale volume that can be harvested from lands allocated to be planned, sustainable harvest. ASQ is used interchangeably with PSQ in this Annual Program Summary to avoid confusion related to technical differences in their definitions.

**Alternate Dispute Resolution (ADR)** - Given the complexity of the Adjudication and other water allocations issues in the Klamath Basin, the Oregon Water Resources Department (WRD) has initiated a voluntary alternative dispute resolution (ADR) process to provide a forum to address Adjudication claim issues and other matters related to water supply and demand in the Klamath Basin.

**Appropriate Management Level (AML)** - The optimum number of wild horses (or burros) within a Herd Management Area (HMA) that results in a thriving ecological balance and avoids a deterioration of the range. Numbers above the AML are considered “excess” and must be removed.

**Animal Unit Month (AUM)** - Amount of forage required to sustain one cow and calf, or one horse, or five sheep, for one month.

**Annual Program Summary (APS)** - A review of the programs on a district or resource area for a specific time period. For the KFRA, the APS is for the time period October 1, 1999 thru September 30, 2000.

**Aquatic Conservation Strategy (ACS)** - A strategy developed to restore and maintain the ecological health of watersheds and aquatic ecosystems within the planning area addressed by the Northwest Forest Plan.

**Archaeological Site** - A geographic locale that contains the material remains of prehistoric and/or historic human activity.

**Archaeological Resource Protection Act (ARPA)** (P.L. 96\_95; 93 Stat. 721; 16 U.S.C. 470aa et seq.) as amended (P.L. 100\_555; P.L. 100\_588) - provides felony-level penalties, more severe than those of the Antiquities Act of 1906 (see .03A), for the unauthorized excavation, removal, damage, alteration, defacement, or the attempted unauthorized removal, damage, alteration, or defacement of any archaeological resource, more than 100 years of age, found on public lands or Indian lands. The act also prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained from public lands or Indian lands in violation of any provision, rule, regulation, ordinance, or permit under the act, or under any Federal, State, or local law. No distinction is made regarding National Register eligibility. The act establishes definitions, permit requirements, and criminal and civil penalties, among other provisions, to correct legal gaps and deficiencies in the Antiquities Act (see .03A). The act overlaps with and partially supersedes the Antiquities Act.

**Area of Critical Environmental Concern (ACEC)** - An area of BLM administered lands where special management attention is needed to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources, or other natural systems or processes; or to protect life and provide safety from natural hazards.

**Best Management Practices (BMP)** - Methods, measures, or practices designed to prevent or reduce water pollution. Not limited to structural and nonstructural controls and procedures for operations and maintenance. Usually, BMPs are applied as a system of practices rather than a single practice.

**Biological Diversity** - The variety of life and its processes, including a complexity of species, communities, gene pools, and ecological function.

**Biological Opinion (BO)** - A determination reached for endangered fish or wildlife species that is issued by the USFWS through consultation with another agency. This opinion evaluates the potential impacts to a species from a specific project and provides recommendations for protection of the viability of the species.

**Board Foot** - A unit of solid wood, one-foot square and one inch thick.

**Bureau Assessment Species** - Species on List 2 of the Oregon natural heritage Database, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040), that are identified in BLM Instruction Memo OR-91-57, and are not included as a Federal candidate, state listed, or bureau sensitive species.

**Bureau of Land Management (BLM)** - Agency within the Department of the Interior, charged with management of the public lands.

**Bureau Sensitive Species** - Species Eligible as federally listed or candidate, state listed or state candidate (plant) status, or on List 1 in the Oregon National Heritage Database, or otherwise approved for this category by the State Director.

**Candidate Species** - Those plants and animals included in Federal register Notices of Review that are being considered for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS). There are two categories of primary concern to BLM:

**Category 1** - Taxa for which the USFWS has substantial information on hand to support proposing the species for listing as threatened or endangered. Listing proposals are either being prepared or have been delayed by higher priority listing work.

**Category 2** - Taxa for which the USFWS has information to indicate that listing is possibly appropriate. Additional information is being collected.

**Categorical Exclusion (CX)** - A categorical exclusion is used when it has been determined that some types of proposed activities do not individually or cumulatively have significant environmental effects and may be exempt from requirements to prepare an environmental analysis. Categorical exclusions (CX) are covered specifically by Department of Interior and BLM guidelines.

**Cavity Nesters** - Wildlife species, most frequently birds, that require cavities (holes) in trees for nesting and reproduction.

**Clean Water Act (CWA)** - the Clean Water Act is the primary Federal statute governing the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters.

**Coarse Woody Debris (CWD)** - Woody pieces of trees that have been detached from their original source of growth (dead trees that are not self-supporting shall be considered severed). This includes up-rooted trees and any severed stems or branches attached to them. It does not include: live trees, dead limbs or branches attached to a dead tree, stumps, dead foliage, bark, or designated shrub species.

**Coordinated Resource Management Plan (CRMP)** - A resource management plan covering a specific geographical area, typically with a mixed land ownership pattern, that coordinates with all interested land owners and affected government agencies to manage for a wide array of resources and resource concerns. This process emphasizes mutually agreed upon goals and a cooperative, instead of confrontational, approach.

**Council on Environmental Quality (CEQ)** - Government agency with oversight of the implementation of the National Environmental Policy Act (NEPA).

**Cubic Foot (CF)** - A unit of solid wood, one foot square and one foot thick.

**Cumulative Effect** - The impact that results from identified actions when they are added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

**Density Management (DM)** - Cutting of trees for the primary purpose of widening their spacing so that growth of remaining trees can be accelerated. Density management harvest can also be used to improve forest health, to open the forest canopy, or to accelerate the attainment of old growth characteristics.

**Department of Environmental Quality (DEQ)** - A department of Oregon State government with responsibilities to oversee the state's environmental laws.

**Diameter at Breast Height (DBH)** - The diameter of a tree 4.5 feet above the ground on the uphill side of the tree.

**District Designated Reserves (DDR)** - Areas designated for the protection of specific resources, flora and fauna, and other values. These areas are not included in other land use allocations nor in the calculation of the PSQ.

**Ecological Site Inventory** - BLM's rangeland survey method has four seral stages based on similarity to the perceived Potential Natural Community. Those stages are Early Seral, Mid Seral, Late Seral and Potential Natural Community.

**Eligible River** - A river or river segment found, through interdisciplinary team and, in some cases, interagency review, to meet Wild and Scenic River Act criteria of being free flowing and possessing one or more Outstandingly Remarkable Values.

**Ecosystem Restoration Office (ERO)** - The ERO is an interagency office which is operated cooperatively by the U.S. Fish and Wildlife Service, Bureau of Reclamation, U.S. Forest Service and the BLM. This interagency office provides funding, technical assistance, and monitoring for watershed restoration projects which are proposed by the Upper Klamath Basin Working Group. This group works closely with the Klamath Basin Provincial Advisory Committee and watershed councils within the Klamath Basin.

**Endangered Species** - Any species defined through the Endangered Species Act of being in danger of extinction throughout all or a significant portion of its range and published in the Federal Register.

**Endangered Species Act** - Act created in 1973 that identified on a National List, any plant, animal or fish that is in danger of extinction throughout all or a significant portion of its range. Species that are threatened, proposed and candidate status, have a consultation process for projects with the USFWS which administers the National List.

**Environmental Assessment (EA)** - A systematic analysis of site-specific BLM activities used to determine whether such activities have a significant effect on the quality of the human environment; and whether a formal Environmental Impact Statement is required; and to aid an agency's compliance with NEPA when no EIS is necessary.

**Environmental Education Area (EEA)** - Area used to inform and educate the public on topics relating to the environment(s) found within the KFRA.

**Environmental Impact Statement (EIS)** - Type of document prepared by Federal agencies in compliance with the National Environmental Policy Act (NEPA) that identifies the environmental consequences of proposed major Federal actions expected to have significant impacts on the human environment.

**Federal Energy and Regulatory Commission (FERC)** - Government agency with responsibility for issuing permits and license for power projects.

**Fiscal Year (FY)** – Budgeting year for the BLM from October 1 thru September 30 each year.

**Geographic Information System (GIS)** - Computer Database of resource information.

**Global Positioning System (GPS)** - Satellite technology used to locate a specific point on the ground.

**Green Tree Retention (GTR)** - Within the KFRA, a term for leaving green trees in a stand when planning a regeneration cut timber sale. Typically, between 16-25 trees per acre, will be retained in the stand.

**Hazardous Materials** - Anything that poses a substantive present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

**Herd Management Area (HMA)** - Public land under the jurisdiction of the Bureau of Land Management that has been designated for special management emphasizing the maintenance of an established wild horse herd. HMAs are defined by the "Wild Free-Roaming Horse and Burro Act" of 1971.

**Interdisciplinary Team (IDT)** - A team of resource specialists organized by agencies to prepare environmental documents.

**Integrated Weed Control Plan (IWCP)** - The plan and programmatic EA for noxious weed management within the KFRA approved in 1993.

**Intermountain West Joint Venture (IWJV)** - The IWJV was formed in 1995 and covers eastern Oregon and parts of nine other western states. This group meets quarterly and is in the process of writing an area plan to determine conditions of wetlands and identify opportunities to improve wetland habitat. The plan (in development) will focus on the Klamath Basin eco-region. This plan, as well as other eco-regions plan within the ten western states, is following the guidelines outlined under the North American Wetlands Conservation Act of 1989. The representatives for the Klamath Basin eco-region are BLM, Ducks Unlimited, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Modoc National Forest, California Fish and Game, and Oregon Joint Venture. The plan is expected to be completed within two years.

**Klamath Falls Resource Area (KFRA)** - That portion of the BLM/Lakeview District located in the south end of Klamath County.

**Land Use Allocation (LUA)** - Allocations that define uses and or activities that are allowable, restricted, and prohibited. They may be expressed in terms of area such as acres or miles. Each allocation is associated with a specific management objective.

**Late-Successional Reserves (LSR)** - Lands managed to maintain and restore old-growth forest conditions.

**Matrix Lands** - Federal land outside of reserves and special management areas that will be available for timber harvest at varying levels.

**Memorandum of Understanding (MOU)** - A document between agencies or sovereign nations such as an Indian tribe, that discloses the protocol for how each party will coordinate and consult with each other relative to a particular activity or activities.

**Million Board Feet (MMBF)** - An expression of volume of trees harvested from timber sales, in millions of board feet.

**Monitoring and Evaluation** - Collection and analysis of data to evaluate the progress and effectiveness of on-the-ground actions in meeting resource management goals and objectives.

**Mortality Salvage** - Timber sales designed to utilize mortality (dead and /or dying trees). This primarily involves only the removal of the mortality within the stand. Normally, less than 10% of the volume removed is live trees in the mortality salvage sales.

**National Environmental Policy Act of 1969 (NEPA)** - Law requiring all federal agencies to evaluate the impacts of proposed major Federal actions with respect to their significance on the human environment.

**National Historic Preservation Act (NHPA)** - An act to establish a program for the preservation of additional historic properties throughout the nation, and for other purposes. This act extends the policy in the Historic Sites Act to include State and local as well as national significance, expands the National Register of Historic Places, and establishes the Advisory Council on Historic Preservation, State Historic Preservation Officers, and a preservation grants-in-aid program.

**Northwest Forest Plan (NFP)** - The plan for management of Forest Service and Bureau of Land Management late-successional and old-growth forest lands within the range of the northern spotted owl.

**Noxious Plant/Weed** - A plant designated by the U.S. department of Agriculture, or state or local weed board, as being injurious to public health, recreation, wildlife, or any public or private property.

**O&C Lands (O&C)** - Public lands granted to the Oregon and California Railroad Company, and subsequently re-vested to the United States, that are managed by the Bureau of Land Management and Forest Service under the authority of the O&C Lands Act.

**Oregon Department of Agriculture (ODA)** - A branch of Oregon State Government with responsibilities for agricultural activities, noxious weed management, and native plant conservation.

**Oregon Department of Environmental Quality (ODEQ)** - A department of Oregon State government with responsibilities to oversee the state's environmental laws.

**Oregon Department of Fish and Wildlife (ODFW)** - A branch of Oregon State Government with responsibilities for managing wildlife populations on federal and state lands.

**Offered (sold) Volume or Offered (sold) Acres** - Any timber sold during the year by auction or negotiated sales, including modifications to contracts. It should be noted that for this Annual Program Summary, offered is considered the same as sold.

**Off-Highway Vehicle (OHV)** - Any motorized track or wheeled vehicle designed for cross-country travel over natural terrain. The term, "Off Highway Vehicle" will be used in place of the term "Off Road Vehicle" to comply with the purposes of Executive orders 11644 and 11989. The definition for both terms is the same.

**Open** - Designated areas and trails where Off Highway Vehicles may be operated subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343.

**Limited** - Designated areas and trails where Off Highway Vehicles are subject to restrictions limiting the number or types of vehicles, date, and time of use; limited to existing or designated roads and trails.

**Closed** - Areas and trails where the use of Off Highway Vehicles is permanently or temporarily prohibited. Emergency use is allowed.

**Outstanding Natural Area (ONA)** - An area that contains unusual natural characteristics and is managed primarily for educational and recreational purposes.

**Outstandingly Remarkable Values (ORV)** - Values among those listed in Section 1 (b) of the Wild and Scenic Rivers Act: "scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values...". Other similar values that may be considered include ecological, biological or botanical, paleontological, hydrological, scientific, or research.

**Payment in Lieu of Taxes (PILT)** - Federal payments to local governments to offset losses in property taxes due to non-taxable Federal lands within their boundaries. BLM is responsible for calculating the payments according to formulas established by law and distributing the funds appropriated by Congress.

**Physical Habitat Simulation Model (PHABISM)** - A watershed model used to assess instream flows.

**Pre-commercial Thinning** - The practice of removing some of the trees less than merchantable size from a stand so that remaining trees will grow faster.

**Prescribed Fire** - A fire burning under specified conditions and designed to accomplish definite, define objectives.

**Probable Sale Quantity (PSQ)** - An estimated average annual volume that can be harvested from lands allocated to planned, sustainable harvest. PSQ is used interchangeably with ASQ in this Annual Program Summary to avoid confusion related to technical differences in their definitions.

**Projected Acres** - These "modeled" age class acres are estimates derived from modeling various silvicultural prescriptions for regeneration, commercial thinning and density management harvest. Modeled age class acre projections may or may not correspond to "Offered" or "Harvested" age class acres at a given point in the decade. Additional age classes are scheduled for regeneration, commercial thinning and density management harvest at other points in the decade.

**Protection Buffer Species** - Species designated in the Northwest Forest Plan that provides for specific management of known sites for these species, and, in many cases, requires surveys prior to ground disturbing activities.

**Rangeland Program Summary (RPS)** - A BLM planning document, typically completed in conjunction with an RMPs Record of Decision, that lays out the specifics for grazing management by grazing allotment. This includes allotment specific resource objectives, level and season of use, allotment categorization, wildlife allocations, and other information relevant to a given allotment.

**Resource Apprentice Program for Students (RAPS)** - A work experience program for high school students intended to give the students actual experiences in natural resource management.

**Regeneration Harvest** - Timber harvest with the objective of opening a forest stand enough to regenerate desired tree species.

**Regional Ecosystem Office (REO)** - Office established to provide staff work and support to the Regional Interagency Executive Committee (RIEC) so the standards and guidelines in the Northwest Forest Plan can be successfully implemented.

**Regional Interagency Executive Committee (RIEC)** - This group serves as the senior regional entity to assure the prompt, coordinated, and successful implementation of the forest management plan standards and guidelines at the regional level.

**Research Natural Area (RNA)** - An area that contains natural resource values of scientific interest and is managed primarily for research and educational purposes. Each RNA is also an Area of Critical Environmental Concern (ACEC).

**Resources and People (RAP) Camp** - This camp is designed to inform students (ages 15-18) and educators about natural resource management and careers working with natural resources.

**Resource Management Plan (RMP)** - A land use plan prepared by the BLM under current regulations in accordance with the Federal Land Policy and Management Act.

**Right-of-Way (R/W)** - A permit or easement that authorizes the use of public lands for specified purposes, such as pipelines, roads, telephone lines, electric lines, reservoirs, and the lands covered by such an easement or permit.

**Riparian Reserve (RR)** - Riparian Reserves are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply. Riparian Reserves occur at the margins of standing and flowing water, intermittent stream channels and ephemeral ponds, and wetlands.

**Rural Interface Areas (RIA)** - Areas where BLM administered lands are adjacent to or intermingled with privately owned lands zoned for 1 to 20-acre lots or that already have residential development.

**Seral Stages** (westside forest communities) - The series of relatively transitory plant communities that develop during ecological succession from bare ground to the climax stage. There are five stages recognized in forest succession:

**Early Seral Stage** - The period from disturbance to crown closure of conifer stands usually occurring from 0-15 years. Grass, herbs, or brush are plentiful.

**Mid Seral Stage** - The period in the life of a forest stand from crown closure to ages 15-40. Due to stand density, brush, grass, or herbs rapidly decrease in the stand. Hiding cover for wildlife may be produced.

**Late Seral Stage** - The period in the life of a forest stand from first merchantability to culmination of Mean Annual increment. This is under a regime including commercial thinning, or to about 100 years of age, depending on wildlife habitat needs. During this period, stand diversity is minimal, except that conifer mortality rates will be fairly rapid. Hiding and thermal cover may be present. Forage is minimal.



**Mature Seral Stage** - The period in the life of a forest stand from Culmination of Mean Annual Increment to an old growth stage of about 200 years. This is a time of gradually increasing stand diversity. Hiding cover, thermal cover, and some forage may be present.

**Old Growth** - This stage constitutes the potential plant community capable of existing on a site given the frequency of natural disturbance events. For forest communities, this stage exists from approximately age 200 until when stand replacement occurs and secondary succession begins again. Depending on fire frequency and intensity, old growth forests may have different structures, species composition, and age distributions. In forests with longer periods between natural disturbance, the forest structure will be more even-aged at late mature or early old growth stages.

**Silvicultural Prescription** - A professional plan for controlling the establishment, composition, constitution, and growth of forests.

**Site Preparation** - Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment that is favorable for survival of suitable trees during the first growing season. This condition can be created by altering ground cover, soil or microsite conditions, using biological, mechanical, or manual clearing, prescribed burns, or a combination of methods.

**SEIS Special Attention Species** - A term that incorporates the "Survey and Manage" and "Protection Buffer" species from the Northwest Forest Plan.

**Southern General Forest Management Area (SGFMA)** (See Matrix) - Forest land managed on a regeneration harvest cycle of 60-110 years. All Matrix lands south of Grants Pass, Oregon are designated as SGFMA.

**Special Recreation Management Area (SRMA)** - Area having commitment to provide specific recreation activity and experience opportunities. These areas usually require high level of recreation investment and/or management. Include, but not limited to, recreation sites.

**Special Status Species** - Plant or animal species falling into any one of the following categories: Federally listed threatened or endangered species, species proposed for Federal listing as threatened or endangered, candidate species for Federal Listing, State listed species, Bureau sensitive species, Bureau assessment species (see separate definition of each).

**State Listed Species** - Any plant or animal species listed by the state of Oregon as threatened or endangered within the state under ORS 496.004, ORS 498.026, or ORS 564.040.

**Natural Resource Conservation Service (NRCS)** - A Federal agency that helps private landowners correct resource problems occurring on their land.

**Survey and Manage** - As outlined in the Northwest Forest Plan, the survey and manage standards and guidelines; provide benefits to old-growth associated species, which are considered to be at risk even after establishment of mapped and unmapped Late-Successional reserves.

**Target Volume** - As used in the document, target volume refers to the volume to be offered for sale as directed by the resource area annual budget.

**The Nature Conservancy (TNC)** - An environmental group that promotes returning managed lands to their historical or natural state.

**Threatened Species** - Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Listings are published in the Federal Register.

**Thousand Board Feet (MBF)** - An expression of volume of trees harvested from timber sales in thousands of board feet.

**Timber Sale Information System (TSIS)** - The national information system that tracks all facets of a timber sale/salvage.

**Total Maximum Daily Load (TMDL)** - A tool for implementing State water quality standards. It is based on the relationship between pollution sources and in-stream water quality standards. The TMDL establishes allowable pollutant loadings or other quantifiable parameters (such as temperature) for a water body and thereby provides the basis for States to establish water quality-based controls.

**Transportation Management Plan (TMP)** - The transportation plan developed for a specific area or by a specific agency that provides how and what kinds of vehicles are allowed in that area.

**Unmapped Late Successional Reserves (UMLSR)** - a small block of forest approximately 100 acres in size designated around known spotted owl activity centers located on lands in the matrix. UMLSRs were established under the direction of the Northwest Forest Plan (NFP), but are not displayed on regional maps in the NFP. The objective for these areas is to protect and restore conditions for a variety of late successional and old growth dependent species.

**Understory Reduction** - Timber cutting done to reduce the density of primarily sub-merchantable (3-7 inch diameter) shade-tolerant species in the understory for the purpose of reducing fire risk and ladder fuels, as well as to enhance health of overstory trees.

**United States Fish and Wildlife Service (USFWS)** - That branch of the Federal Government with responsibility for enforcing the Endangered Species Act and managing the network of National Wildlife Refuge System Lands.

**United States Forest Service (USFS)** - An agency within the Federal Department of Agriculture with responsibility for management of the Federal National Forests.

**Visual Resource Management (VRM)** - The inventory and planning actions to identify visual values and establish objectives for managing those values, and the management actions to achieve visual management objectives.

**Water Quality Management Plan (WQMP)** - Plans required by the State of Oregon for management of rivers and tributaries to assure that total maximum daily loads are not exceeded.

**Water Resources Department (WRD)** - The Oregon Water Resources Department (WRD) initiated the Klamath Basin Adjudication in 1975. The Klamath Adjudication is an Oregon general water claim adjudication in which the final decree will be issued by the Klamath County Circuit Court. All Adjudication claims were filed with the WRD by April 1997. The Adjudication is the first Oregon general water adjudication in which complex federal claims have been filed.

**Watershed Council** - There is ongoing participation with the Klamath Watershed Council. The BLM is represented on the Councils' Technical Advisory Committees. The council is active in coordinating watershed and water quality enhancement projects.

**Whitewater Rafting (WR)** - The recreational activity of running a river in a rubber raft or other river non-motorized craft usually when river flows are high.

**Wilderness Study Area (WSA)** - Public land under the jurisdiction of the Bureau of Land Management that has been studied for wilderness character and is currently in an interim management status awaiting official wilderness designation or release from WSA status by Congress.

**Wildfire Situation Analysis (WFSA)** - An analysis used to determine priorities when multiple fire starts and lack of resources preclude the staffing of all new fires. The Wildfire Situation Analysis will be used to document this decision.

**Wild & Scenic River System (W&S)** - A National system of rivers or river segments that have been designated by Congress and the President as part of the national Wild and Scenic Rivers System (Public Law 90-542, 1968). Each designated river is classified as one of the following:

**Wild River** - A river or section of a river free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. Designated wild as part of the Wild and Scenic Rivers System.

**Scenic River** - A river or section of river free of impoundments, with shorelines or watersheds still largely primitive and undeveloped but accessible in places by roads. Designated scenic as part of the national Wild and Scenic Rivers System.

**Recreational River** - A river or section of a river readily accessible by road or railroad, that may have some development along its shorelines, and that may have undergone some impoundment or diversion in the past. Designated recreational as part of the national Wild and Scenic Rivers System.



**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**  
Klamath Falls Resource Area  
2795 Anderson Avenue, Building 25  
Klamath Falls, Oregon 97603-7891

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